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FOR WRITERS MOSTLY

BECAUSE of the lavishly attractive novel contest being sponsored jointly by GALAXY and Simon & Schuster, the biggest in the history of science fiction, it's inevitable that authors who are unfamiliar with this field will be studying the magazine to learn what kind of material we are seeking.

To save their time and ours, here is a partial list of over-worked ideas that should be strenuously avoided:

Fictional warnings of nuclear and biological destruction, the post-atomic world, reversion to barbarism, mutant children slain because they have only ten toes and fingers instead of twelve, absurdly planned and preposterously successful revolts against dictatorships, problems of survival wearily turned over to women, war between groups, nations, worlds and solar systems.

Flying Saucers, cops and robbers or cowboys and Indians in space, the duel between the good guy and the bad guy alone on an asteroid, the bright revelation that the characters we have been reading about are Adam and Eve or Jesus, the creation of a miniature universe in a laboratory by a scientist whose name turns out to be an anagram of Jehovah, the

alien eater of life force in the Andes whose menu consists exclusively of pretty virgins.

There are many more that slither across my desk, to lie there pulsing feebly while they acquire rejection slips, but the debilitated notions listed are readiest to mind.

From time to time, writers can still make them come to life through rarely encountered virtuosity. The odds on that happening are not worth taking, however. The best advice to follow is to learn how to hunt down fresh themes or new approaches to old ones. What's done with the idea is then a matter of talent and skill, neither of which can be taught here, but the basic steps in science fiction thinking can be presented.

First of all, science fiction answers in *dramatic terms* the unstated question: "What would happen if—?"

The *if* selected depends on whether the author takes the most blatant trends or tendencies in our society, in which case he is competing with just about everybody else, or digs beneath the surface for less apparent ones. Those, obviously, rate and receive the more enthusiastic welcome.

Political conflicts and wars,

however gigantic, have a way of becoming obscured by time. But the inventions and discoveries that were being made then live long after the issues are resolved.

Kaiser Wilhelm, for example, quickly turned into a pathetic figure after his defeat; the development of planes, tanks, long-range artillery and submarines was the lasting influence of World War I. Even Hitler has lost much of his frightfulness, while jets, rockets, atomic energy and antibiotics, all of which got their start in World War II, will be part of the life of the future.

What will be remembered when the threat of communism is gone? That's what the writer has to find and dramatize for us.

SPACE travel is perhaps the most popular subject in science fiction and writers have suggested all kinds of crews: introverts because they can take loneliness, extroverts because they get along better with each other, women because they tolerate monotony, men because they are more adventurous. The reasoning is generally sound enough, but aren't there other possibilities?

Gravy Planet offered a midget spaceman, 60 pounds of computer and pilot, an enormous saving of fuel, food, air renewal and living space.

Why not deaf mutes? The noise

of takeoff and landing wouldn't bother them, and they've been conditioned to the awful silence of the void. The blind, on the other hand, wouldn't be appalled by the immensities of space.

Missionaries have always been on the heels of explorers, yet what would happen if they came across a humanoid race—not the usual monstrosities—on a planet where personal death is unknown? There are savages on Earth who don't have this knowledge, but they soon pick it up, and fear along with it. Suppose, though, that the alien bodies disintegrate instantly at death? The concept of afterlife would be completely unthinkable to them.

The canals of Mars irrigate the deserts? Not necessarily. *Maybe they're meant to drain the land and keep it suitably arid for Martians.*

Well, there's the method of finding fresh ideas—turn the obvious upside down, inside out and hind-end fore.

Actually, digging up ideas is only the beginning of the job. Next comes choosing characters, building conflict, sustaining suspense, advancing the story, working out a solution consistent with theme and characterization—all the labor of orchestration.

It's hard, lonesome work, but who said writing is easy?

—H. L. GOLD

THE OLD DIE RICH

By H. L. GOLD

It is the kind of news item you read at least a dozen times a year, wonder about briefly, and then promptly forget—but the real story is the one that the reporters are unable to cover!

“YOU again, Weldon,” the Medical Examiner said wearily.

I nodded pleasantly and looked around the shabby room with a feeling of hopeful eagerness. Maybe *this* time, I thought, I'd get the answer. I had the same sensation I always had in these places—the quavery senile despair at being closed in a room with the single shaky chair, tot-

tering bureau, dim bulb hanging from the ceiling, the flaking metal bed.

There was a woman on the bed, an old woman with white hair thin enough to show the tight-drawn scalp, her face and body so emaciated that the flesh between the bones formed parchment pockets. The M.E. was going over her as if she were a side of beef that he had to put a

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federal grade stamp on, grumbling meanwhile about me and Sergeant Lou Pape, who had brought me here.

"When are you going to stop taking Weldon around to these cases, Sergeant?" the M.E. demanded in annoyance. "Damned actor and his morbid curiosity!"

For the first time, Lou was stung into defending me. "Mr. Weldon is a friend of mine—I used to be an actor, too, before I joined the force—and he's a follower of Stanislavsky."

The beat cop who'd reported the D.O.A. whipped around at the door. "A Red?"

I LET Lou Pape explain what the Stanislavsky method of acting was, while I sat down on the one chair and tried to apply it. Stanislavsky was the great pre-Revolution Russian stage director whose idea was that actors had to think and feel like the characters they portrayed so they could *be* them. A Stanislavskian works out everything about a character right up to the point where a play starts—where he was born, when, his relationship with his parents, education, childhood, adolescence, maturity, attitudes toward men, women, sex, money, success, including incidents. The play itself is just an extension of the life history created by the actor.

How does that tie in with the old woman who had died? Well, I'd had the cockeyed kind of luck to go bald at 25 and I'd been playing old men ever since. I had them down pretty well—it's not just a matter of shuffling around all hunched over and talking in a high cracked voice, which is cornball acting, but learning what old people are like inside—and these cases I talked Lou Pape into taking me on were studies in senility. I wanted to understand them, know what made them do what they did, *feel* the compulsion that drove them to it.

The old woman on the bed, for instance, had \$32,000 in five bank accounts . . . and she'd died of starvation.

You've come across such cases in the news, at least a dozen a year, and wondered who they were and why they did it. But you read the items, thought about them for a little while, and then forgot them. My interest was professional; I made my living playing old people and I had to know as much about them as I could.

That's how it started off, at any rate. But the more cases I investigated, the less sense they made to me, until finally they were practically an obsession.

Look, they almost always have around \$30,000 pinned to their underwear, hidden in mattresses,

or parked in the bank, yet they starve themselves to death. If I could understand them, I could write a play or have one written; I might really make a name for myself, even get a Hollywood contract, maybe, if I could act them as they should be acted.

So I sat there in the lone chair, trying to reconstruct the character of the old woman who had died rather than spend a single cent of her \$32,000 for food.

MALNUTRITION induced by senile psychosis," the M.E. said, writing out the death certificate. He turned to me. "There's no mystery to it, Weldon. They starve because they're less afraid of death than digging into their savings."

I'd been imagining myself growing weak from hunger and trying to decide that I ought to eat even if it cost me something. I came out of it and said, "That's what you keep telling me."

"I keep hoping it'll convince you so you won't come around any more. What are the chances, Weldon?"

"Depends. I will when I'm sure you're right. I'm not."

He shrugged disgustedly, ordered the wicker basket from the meat wagon and had the old woman carried out. He and the beat cop left with the basket team. He could at least have said good-

by. He never did, though.

A fat lot I cared about his attitude or dogmatic medical opinion. Getting inside this character was more important. The setting should have helped; it was depressing, rank with the feel of solitary desperation and needless death.

Lou Pape stood looking out the one dirty window, waiting patiently for me. I let my joints stiffen as if they were thirty years older and more worn out than they were, and empathized myself into a dilemma between getting still weaker from hunger and drawing a little money out of the bank.

I worked at it for half an hour or so with the deep concentration you acquire when you use the Stanislavsky method. Then I gave up.

"The M.E. is wrong, Lou," I said. "It doesn't feel right."

Lou turned around from the window. He'd stood there all that time without once coughing or scratching or doing anything else that might have distracted me. "He knows his business, Mark."

"But he doesn't know old people."

"What is it you don't get?" he prompted, helping me dig my way through a characterization like the trained Stanislavskian he was — and still would have been if he hadn't gotten so sick of the

insecurity of acting that he'd become a cop. "Can't money be more important to a psychotic than eating?"

"Sure," I agreed. "Up to a point. Undereating, yes. Actual starvation, no."

"Why not?"

"You and the M.E. think it's easy to starve to death. It isn't. Not when you can buy day-old bread at the bakeries, soup bones for about a nickel a pound, wilted vegetables that groceries are glad to get rid of. Anybody who's willing to eat that stuff can stay alive on nearly nothing a day. Nearly nothing, Lou, and hunger is a damned potent instinct. I can understand hating to spend even those few cents. I can't see going without food altogether."

HE took out a cigarette; he hadn't until then because he didn't want to interrupt my concentration. "Maybe they get too weak to go out after old bread and meat bones and wilted vegetables."

"It still doesn't figure." I got up off the shaky chair, my joints now really stiff from sitting in it. "Do you know how long it takes to die of starvation?"

"That depends on age, health, amount of activity—"

"Nuts!" I said. "It would take weeks!"

"So it takes weeks. Where's the

problem — if there is one?"

I lit the pipe I'd learned to smoke instead of cigarettes—old men seem to use pipes more than anything else, though maybe it'll be different in the next generation. More cigarette smokers now, you see, and they'd stick to the habit unless the doctor ordered them to cut it out.

"Did you ever try starving for weeks, Lou?" I asked.

"No. Did you?"

"In a way. All these cases you've been taking me on for the last couple of years—I've tried to be them. But let's say it's possible to die of starvation when you have thousands of dollars put away. Let's say you don't think of scrounging off food stores or working out a way of freeloading or hitting soup lines. Let's say you stay in your room and slowly starve to death."

He slowly picked a fleck of tobacco off his lip and flicked it away, his sharp black eyes poking holes in the situation I'd built up for him. But he wasn't ready to say anything yet.

"There's charity," I went on, "relief—except for those who have their dough in banks, where it can be checked on—old age pension, panhandling, cadging off neighbors."

He said, "We know these cases are hermits. They don't make contact with anybody."

"Even when they're starting to get real hungry?"

"You've got something, Mark, but that's the wrong tack," he said thoughtfully. "The point is that *they* don't have to make contact; other people know them about them. Somebody would check after a few days or a week—the janitor, the landlord, someone in the house or the neighborhood."

"So they'd be found before they died."

"You'd think so, wouldn't you?" he agreed reluctantly. "They don't generally have friends, and the relatives are usually so distant, they hardly know these old people and whether they're alive or not. Maybe that's what threw us off. But you don't need friends and relatives to start wondering, and investigate when you haven't shown up for a while." He lifted his head and looked at me. "What does that prove, Mark?"

"That there's something wrong with these cases. I want to find out what."

I GOT Lou to take me down to Headquarters, where he let me see the bankbooks the old woman had left.

"She took damned good care of them," I said. "They look almost new."

"Wouldn't you take damned

good care of the most important thing in the world to you?" he asked. "You've seen the hoards of money the others leave. Same thing."

I peered closely at the earliest entry, April 23, 1907, \$150. My eyes aren't that bad; I was peering at the ink. It was dark, unfaded. I pointed it out to Lou.

"From not being exposed to daylight much," he said. "They don't haul out the bankbooks or money very often, I guess."

"And that adds up for you? I can see them being psychotics all their lives . . . but not *senile* psychotics."

"They hoarded, Mark. That adds up for me."

"Funny," I said, watching him maneuver his cigarette as if he loved the feel of it, drawing the smoke down and letting it out in plumes of different shapes, from rings to slender streams. What a living he could make doing cigarette commercials on TV! "I can see you turn into one of these cases, Lou."

He looked startled for a second, but then crushed out the butt carefully so he could watch it instead of me. "Yeah? How so?"

"You've been too scared by poverty to take a chance. You know you could do all right acting, but you don't dare giving up this crummy job. Carry that far

enough and you try to stop spending money, then cut out eating, and finally wind up dead of starvation in a cheap room."

"Me? I'd never get that scared of being broke!"

"At the age of 70 or 80?"

"Especially then! I'd probably tear loose for a while and then buy into a home for the aged."

I wanted to grin, but I didn't. He'd proved my point. He'd also shown that he was as bothered by these old people as I was.

"Tell me, Lou. If somebody kept you from dying, would you give him any dough for it, even if you were a senile psychotic?"

I could see him using the Stanislavsky method to feel his way to the answer. He shook his head. "Not while I was alive. Will it, maybe, not give it."

"How would that be as a motive?"

HE leaned against a metal filing cabinet. "No good, Mark. You know what a hell of a time we have tracking down relatives to give the money to, because these people don't leave wills. The few relatives we find are always surprised when they get their inheritance—most of them hardly remember dear old whoever-it-was that died and left it to them. All the other estates eventually go to the State treasury, unclaimed."

"Well, it was an idea." I opened the oldest bankbook again. "Anybody ever think of testing the ink, Lou?"

"What for? The banks' records always check. These aren't forgeries, if that's what you're thinking."

"I don't know what I'm thinking," I admitted. "But I'd like to turn a chemist loose on this for a little while."

"Look, Mark, there's a lot I'm willing to do for you, and I think I've done plenty, but there's a limit—"

I let him explain why he couldn't let me borrow the book and then waited while he figured out how it could be done and did it. He was still grumbling when he helped me pick a chemist out of the telephone directory and went along to the lab with me.

"But don't get any wrong notions," he said on the way. "I have to protect State property, that's all, because I signed for it and I'm responsible."

"Sure, sure," I agreed, to humor him. "If you're not curious, why not just wait outside for me?"

He gave me one of those white-tooth grins that he had no right to deprive women audiences of. "I could do that, but I'd rather see you make a sap of yourself."

I turned the bankbook over to the chemist and we waited for

the report. When it came, it had to be translated.

THE ink was typical of those used 50 years ago. Lou Pape gave me a jab in the ribs at that. But then the chemist said that, according to the amount of oxidation, it seemed fresh enough to be only a few months or years old, and it was Lou's turn to get jabbed. Lou pushed him about the aging, asking if it couldn't be the result of unusually good care. The chemist couldn't say—that depended on the kind of care; an airtight compartment, perhaps, filled with one of the inert gases, or a vacuum. They hadn't been kept that way, of course, so Lou looked as baffled as I felt.

He took the bankbook and we went out to the street.

"See what I mean?" I asked quietly, not wanting to rub it in.

"I see something, but I don't know what. Do you?"

"I wish I could say yes. It doesn't make any more sense than anything else about these cases."

"What do you do next?"

"Damned if I know. There are thousands of old people in the city. Only a few of them take this way out. I have to try to find them before they do."

"If they're loaded, they won't say so, Mark, and there's no

way of telling them from those who are down and out."

I rubbed my pipe disgruntledly against the side of my nose to oil it. "Ain't this a beaut of a problem? I wish I liked problems. I hate them."

Lou had to get back on duty. I had nowhere to go and nothing to do except worry my way through this tangle. He headed back to Headquarters and I went over to the park and sat in the sun, warming myself and trying to think like a senile psychotic who would rather die of starvation than spend a few cents for food.

I didn't get anywhere, naturally. There are too many ways of beating starvation, too many chances of being found before it's too late.

And the fresh ink, over half a century old . . .

I TOOK to hanging around banks, hoping I'd see someone come in with an old bankbook that had fresh ink from 50 years before. Lou was some help there—he convinced the guards and tellers that I wasn't an old-looking guy casing the place for a gang, and even got the tellers to watch out for particularly dark ink in ancient bankbooks.

I stuck at it for a month, although there were a few stage

calls that didn't turn out right, and one radio and two TV parts, which did and kept me going. I was almost glad the stage parts hadn't been given to me; they'd have interrupted my outside work.

After a month without a thing turning up at the banks, though, I went back to my two rooms in the theatrical hotel one night, tired and discouraged, and I found Lou there. I expected him to give me another talk on dropping the whole thing; he'd been doing that for a couple of weeks now, every time we got together. I felt too low to put up an argument. But Lou was holding back his excitement—acting like a cop, you know, instead of projecting his feelings — and he couldn't haul me out to his car as fast as he probably wanted me to go.

"Been trying to get in touch with you all day, Mark. Some old guy was found wandering around, dazed and suffering from malnutrition, with \$17,000 in cash inside the lining of his jacket."

"Alive?" I asked, shocked right into eagerness again.

"Just barely. They're trying intravenous feeding to pull him through. I don't think he'll make it."

"For God's sake, let's get there before he conks out!"

Lou raced me to the City Hos-

pital and up to the ward. There was a scrawny old man in a bed, nothing but a papery skin stretched thin over a face like a skull and a body like a Halloween skeleton, shivering as if he was cold. I knew it wasn't the cold. The medics were injecting a heart stimulant into him and he was vibrating like a rattletrap car racing over a gravel road.

"Who are you?" I practically yelled, grabbing his skinny arm. "What happened to you?"

He went on shaking with his eyes closed and his mouth open.

"Ah, hell!" I said, disgusted. "He's in a coma."

"He might start talking," Lou told me. "I fixed it up so you can sit here and listen in case he does."

"So I can listen to delirious ravings, you mean."

Lou got me a chair and put it next to the bed. "What are you kicking about? This is the first live one you've seen, isn't it? That ought to be good enough for you." He looked as annoyed as a director. "Besides, you can get biographical data out of delirium that you'd never get if he was conscious."

HE was right, of course. Not only data, but attitudes, wishes, resentments that would normally be repressed. I wasn't thinking of acting at the moment,

though. Here was somebody who could tell me what I wanted to know . . . only he couldn't talk.

Lou went to the door. "Good luck," he said, and went out.

I sat down and stared at the old man, *willing* him to talk. I don't have to ask if you've ever done that; everybody has. You keep thinking over and over, getting more and more tense, "Talk, damn you, *talk!*" until you find that every muscle in your body is a fist and your jaws are aching because you've been clenching your teeth so hard. You might just as well not bother, but once in a while a coincidence makes you think you've done it. Like now.

The old man sort of came to. That is, he opened his eyes and looked around without seeing anything, or it was so far away and long ago that nobody else could see what he saw.

I hunched forward on the chair and willed harder than ever. Nothing happened. He stared at the ceiling and through and beyond me. Then he closed his eyes again and I slumped back, defeated and bitter—but that was when he began talking.

There were a couple of women, though they might have been little girls in his childhood, and he had his troubles with them. He was praying for a toy train, a roadster, to pass his tests, to

keep from being fired, to be less lonely, and back to toys again. He hated his father, and his mother was too busy with church bazaars and such to pay much attention to him. There was a sister: she died when he was a kid. He was glad she died, hoping maybe now his mother would notice him,*but he was also filled with guilt because he was glad. Then somebody, he felt, was trying to shove him out of his job.

The intravenous feeding kept dripping into his vein and he went on rambling. After ten or fifteen minutes of it, he fell asleep. I felt so disappointed that I could have slapped him awake, only it wouldn't have done any good. Smoking would have helped me relax, but it wasn't allowed, and I didn't dare go outside for one, for fear he might revive again and this time come up to the present.

"BROKE!" he suddenly shrieked, trying to sit up.

I pushed him down gently, and he went on in frightful terror, "Old and poor, nowhere to go, nobody wants me, can't make a living, read the ads every day, no jobs for old men."

He blurted through weeks, months, years—I don't know—of fear and despair. And finally he came to something that made his face glow like a radium dial.

"An ad. No experience needed. Good salary." His face got dark and awful. All he added was, "El Greco," or something that sounded like it, and then he went into terminal breathing.

I rang for the nurse and she went for the doctor. I couldn't stand the long moments when the old man's chest stopped moving, the abrupt frantic gulps of air followed by no breath at all. I wanted to get away from it, but I had to wait for whatever more he might say.

It didn't come. His eyes fogged and rolled up and he stopped taking those spasmodic strangling breaths. The nurse came back with the doctor, who felt his pulse and shook his head. She pulled the blanket over the old man's face.

I left, feeling sick. I'd learned things I already knew about hate and love and fear and hope and frustration. There was an ad in it somewhere, but I had no way of telling if it had been years ago or recently. And a name that sounded like "El Greco." That was a Spanish painter of four-hundred years ago. Had the old guy been remembering a picture he'd seen?

No, he'd come up at least close to the present. The ad seemed to solve his problem about being broke. But what about the \$17,000 that had been found in the

lining of his jacket? He hadn't mentioned that. Of course, being a senile psychotic, he could have considered himself broke even with that amount of money. None coming in, you see.

That didn't add up, either. His was the terror of being old and jobless. If he'd had money, he would have figured how to make it last, and that would have come through in one way or another.

There was the ad, there was his hope, and there was this El Greco. A Greek restaurant, maybe, where he might have been humming his meals.

But where did the \$17,000 fit in?

LOU Pape was too fed up with the whole thing to discuss it with me. He just gave me the weary eye and said, "You're riding this too hard, Mark. The guy was talking from fever. How do I know what figures and what doesn't when I'm dealing with insanity or delirium?"

"But you admit there's plenty about these cases that doesn't figure?"

"Sure. Did you take a look at the condition the world is in lately? Why should these old people be any exception?"

I couldn't blame him. He'd pulled me in on the cases with plenty of trouble to himself, just

to do me a favor. Now he was fed up. I guess it wasn't even that—he thought I was ruining myself, at least financially and maybe worse, by trying to run down the problem. He said he'd be glad to see me any time and gas about anything or help me with whatever might be bothering me, if he could, but not these cases any more. He told me to lay off them, and then he left me on my own.

I don't know what he could have done, actually. I didn't need him to go through the want ads with me, which I was doing every day, figuring there might be something in the ravings about an ad. I spent more time than I liked checking those slanted at old people, only to find they were supposed to become messengers and such.

One brought me to an old brownstone five-story house in the East 80s. I got on line with the rest of the applicants—there were men and women, all decrepit, all looking badly in need of money—and waited my turn. My face was lined with collo-dion wrinkles and I wore an antique shiny suit and rundown shoes. I didn't look more prosperous or any younger than they did.

I finally came up to the woman who was doing the interviewing. She sat behind a plain office

desk down in the main floor hall, with a pile of application cards in front of her and a ballpoint pen in one strong, slender hand. She had red hair with gold lights in it and eyes so pale blue that they would have seemed the same color as the whites if she'd been on the stage. Her face would have been beautiful except for her rigid control of expression; she smiled abruptly, shut it off just like that, looked me over with all the impersonality and penetration of an X-ray from the soles to the bald head, exactly as she'd done with the others. But that skin! If it was as perfect as that all over her slim, stiffly erect, proudly shaped body, she had no business off the stage!

"Name, address, previous occupation, social security number?" she asked in a voice with good clarity, resonance and diction. She wrote it all down while I gave the information to her. Then she asked me for references, and I mentioned Sergeant Lou Pape. "Fine," she said. "We'll get in touch with you if anything comes up. Don't call us—we'll call you."

I hung around to see who'd be picked. There was only one, an old man, two ahead of me in the line, who had no social security number, no references, not even any relatives or friends she could

have checked up on him with.

Damn! Of course that was what she wanted! Hadn't all the starvation cases been people without social security, references, either no friends and relatives or those they'd lost track of?

I'd pulled a blooper, but how was I to know until too late?

Well, there was a way of making it right.

WHEN it was good and dark that evening, I stood on the corner and watched the lights in the brownstone house. The ones on the first two floors went out, leaving only those on the third and fourth. Closed for the day . . . or open for business?

I got into a building a few doors down by pushing a button and waiting until the buzzer answered, then racing up to the roof while some man yelled down the stairs to find out who was there. I crossed the tops of the two houses between and went down the fire escape.

It wasn't easy, though not as tough as you might imagine. The fact is that I'm a whole year younger than Lou Pape, even if I could play his grandpa professionally. I still have muscles left and I used them to get down the fire escape at the rear of the house.

The fourth floor room I looked into had some kind of wire mesh

cage and some hooded machinery. Nobody there.

The third floor room was the redhead's. She was coming out of the bathroom with a terrycloth bathrobe and a towel turban on when I looked in. She slid the robe off and began dusting herself with powder. That skin *did* cover her.

She turned and moved toward a vanity against the wall that I was on the other side of. The next thing I knew, the window was flung up and she had a gun on me.

"Come right in—Mr. Weldon, isn't it?" she said in that completely controlled voice of hers. One day her control would crack, I thought irrelevantly, and the pieces would be found from Dallas to North Carolina. "I had an idea you seemed more curious than was justified by a help-wanted ad."

"A man my age doesn't get to see many pretty girls," I told her, making my own voice crack pathetically in a senile whinny.

She motioned me into the room. When I was inside, I saw a light over the window blinking red. It stopped the moment I was in the room. A silent burglar alarm.

She let her pale blue eyes wash insolently over me. "A man your age can see all the pretty girls he wants to. You're not old."



"And you use a rinse," I retorted.

She ignored it. "I specifically advertised for old people. Why did you apply?"

It had happened so abruptly that I hadn't had a chance to use the Stanislavsky method to *feel* old in the presence of a beautiful nude woman. I don't even know if it would have worked. Nothing's perfect.

"I needed a job awful bad," I answered sullenly, knowing it sounded like an ad lib.

SHE smiled with more contempt than humor. "You had a job, Mr. Weldon. You were very busy trying to find out why senile psychotics starve themselves to death."

"How did you know that?" I asked, startled.

"A little investigation of my own. I also happen to know you didn't tell your friend Sergeant Pape that you were going to be here tonight."

That was a fact, too. I hadn't felt sure enough that I'd found the answer to call him about it. Looking at the gun in her steady hand, I was sorry I hadn't.

"But you did find out I own this building, that my name is May Roberts, and that I'm the daughter of the late Dr. Anthony Roberts, the physicist," she continued. "Is there anything else

you want me to tell you about yourself?"

"I know enough already. I'm more interested in you and the starvation cases. If you weren't connected with them, you wouldn't have known I was investigating them."

"That's obvious, isn't it?" She reached for a cigarette on the vanity and used a lighter with her free hand. The big mirror gave me another view of her lovely body, but that was beginning to interest me less than the gun. I thought of making a grab for it. There was too much distance between us, though, and she knew better than to take her eyes off me while she was lighting up. "I'm not afraid of professional detectives, Mr. Weldon. They deal only with facts and every one of them will draw the same conclusions from a given set of circumstances. I don't like amateurs. They guess too much. They don't stick to reality. The result—" her pale eyes chilled and her shapely mouth went hard—"is that they are likely to get too close to the truth."

I wanted a smoke myself, but I wasn't willing to make a move toward the pipe in my jacket. "I may be close to the truth, Miss Roberts, but I don't know what the devil it is. I still don't know how you're tied in with the senile psychotics or why they starve

with all that money. You could let me go and I wouldn't have a thing on you."

She glanced down at herself and laughed for real for the first time. "You wouldn't, would you? On the other hand, you know where I'm working from and could nag Sergeant Pape into getting a search warrant. It wouldn't incriminate me, but it would be inconvenient. I don't care to be inconvenienced."

"Which means what?"

"You want to find out my connection with senile psychotics. I intend to show you."

"How?"

She gestured dangerously with the gun. "Turn your face to the wall and stay that way while I get dressed. Make one attempt to turn around before I tell you to and I'll shoot you. You're guilty of housebreaking, you know. It would be a little inconvenient for me to have an investigation . . . but not as inconvenient as for you."

I FACED the wall, feeling my stomach braid itself into a tight, painful knot of fear. Of what, I didn't know yet, only that old people who had something to do with her died of starvation. I wasn't old, but that didn't seem very comforting. She was the most frigid, calculating, *deadly* woman I'd ever met. That alone

was enough to scare hell out of me. And there was the problem of what she was capable of.

Hearing the sounds of her dressing behind me, I wanted to lunge around and rush her, taking a chance that she might be too busy pulling on a girdle or reaching back to fasten a bra to have the gun in her hand. It was a suicidal impulse and I gave it up instantly. Other women might compulsively finish concealing themselves before snatching up the gun. Not her.

"All right," she said at last.

I faced her. She was wearing coveralls that, if anything, emphasized the curves of her figure. She had a sort of babushka that covered her red hair and kept it in place—the kind of thing women workers used to wear in factories during the war. She had looked lethal with nothing on but a gun and a hard expression. She looked like a sentence of execution now.

"Open that door, turn to the right and go upstairs," she told me, indicating directions with the gun.

I went. It was the longest, most anxious short walk I've ever taken. She ordered me to open a door on the fourth floor, and we were inside the room I'd seen from the fire escape. The mesh cage seemed like a torture chamber to me, the hooded motors de-

signed to shoot an agonizing current through my emaciating body.

"You're going to do to me what you did to the old man you hired today?" I probed, hoping for an answer that would really answer.

She flipped on the switch that started the motors and there was a shrill, menacing whine. The wire mesh of the cage began blurring oddly, as if vibrating like the tines of a tuning fork.

"You've been an unexpected nuisance, Weldon," she said above the motors. "I never thought you'd get this far. But as long as you have, we might as well both benefit by it."

"Benefit?" I repeated. "*Both of us?*"

She opened the drawer of a work table and pulled out a stack of envelopes held with a rubber band. She put the stack at the other edge of the table.

"Would you rather have all cash or bank accounts or both?"

My heart began to beat. *She was where the money came from!*

"**Y**OU trying to tell me you're a philanthropist?" I demanded.

"Business is philanthropy, in a way," she answered calmly. "You need money and I need your services. To that extent, we're doing each other a favor. I think

you'll find that the favor I'm going to do for you is a pretty considerable one. Would you mind picking up the envelopes on the table?"

I took the stack and stared at the top envelope. "May 15, 1931," I read aloud, and looked suspiciously at her. "What's this for?"

"I don't think it's something that can be explained. At least it's never been possible before and I doubt if it would be now. I'm assuming you want both cash and bank accounts. Is that right?"

"Well, yes. Only—"

"We'll discuss it later." She looked along a row of shelves against one wall, searching the labels on the stacks of bundles there. She drew one out and pushed it toward me. "Please open that and put on the things you'll find inside."

I tore open the bundle. It contained a very plain business suit, black shoes, shirt, tie and a hat with a narrow brim.

"Are these supposed to be my burial clothes?"

"I asked you to put them on," she said. "If you want me to make that a command, I'll do it."

I looked at the gun and I looked at the clothes and then for some shelter I could change behind. There wasn't any.

She smiled. "You didn't seem

concerned about my modesty. I don't see why your own should bother you. Get dressed!"

I obeyed, my mind anxiously chasing one possibility after another, all of them ending up with my death. I got into the other things and felt even more uncomfortable. They were all only an approximate fit: the shoes a little too tight and pointed, the collar of the shirt too stiffly starched and too high under my chin, the gray suit too narrow at the shoulders and the ankles. I wished I had a mirror to see myself in. I felt like an ultra-conservative Wall Street broker and I was sure I resembled one.

"All right," she said. "Put the envelopes in your inside pocket. You'll find instructions on each. Follow them carefully."

"I don't get it!" I protested.

"You will. Now step into the mesh cage. Use the envelopes in the order they're arranged in."

"But what's this all about?"

"I can tell you just one thing, Mr. Weldon—don't try to escape. It can't be done. Your other questions will answer themselves if you follow the instructions on the envelopes."

She had the gun in her hand. I went into the mesh cage, not knowing what to expect and yet too afraid of her to refuse. I didn't want to wind up dead of starvation, no matter how much

money she might have given me—but I didn't want to get shot, either.

She closed the mesh gate and pushed the switch as far as it would go. The motors screamed as they picked up speed; the mesh cage vibrated more swiftly; I could see her through it as if there were nothing between us.

And then I couldn't see her at all.

I was outside a bank on a sunny day in spring.

MY fear evaporated instantly—I'd escaped somehow!

But then a couple of realizations slapped me from each side. It was day instead of night. I was out on the street and not in her brownstone house.

Even the season had changed!

Dazed, I stared at the people passing by. They looked like characters in a TV movie, the women wearing long dresses and flowerpot hats, their faces made up with petulant rosebud mouths and bright blotches of rouge; the men in hard straw hats, suits with narrow shoulders, plain black or brown shoes—the same kind of clothes I was wearing.

The rumble of traffic in the street caught me next. Cars with square bodies, tubular radiators . . .

For a moment, I let terror soak through me. Then I remembered

the mesh cage and the motors. May Roberts could have given me electro-shock, kept me under long enough for the season to change, or taken me South and left me on a street in daylight.

But this was a street in New York. I recognized it, though some of the buildings seemed changed, the people dressed more shabbily.

Shrewd stagesetting? Hypnosis?

That was it, of course! She'd hypnotized me . . .

Except that a subject under hypnosis doesn't know he's been hypnotized.

Completely confused, I took out the stack of envelopes I'd put in my pocket. I was supposed to have both cash and a bank account, and I was outside a bank. She obviously wanted me to go in, so I did. I handed the top envelope to the teller.

He hauled \$150 out of it and looked at me as if that was enough to buy and sell the bank. He asked me if I had an account there. I didn't. He took me over to an officer of the bank, a fellow with a Hoover collar and a John Gilbert mustache, who signed me up more cordially than I'd been treated in years.

I walked out to the street, gaping at the entry in the bankbook he'd handed me. My pulse was jumping lumpily, my lungs re-

fusing to work right, my head doing a Hopi rain dance.

The date he'd stamped was May 15, 1931.

I DIDN'T know which I was more afraid of — being stranded, middle-aged, in the worst of the depression, or being yanked back to that brown-stone house. I had only an instant to realize that I was a kid in high school uptown right at that moment. Then the whole scene vanished as fast as blinking and I was outside another bank somewhere else in the city.

The date on the envelope was May 29th and it was still 1931. I made a \$75 deposit there, then \$100 in another place a few days later, and so forth, spending only a few minutes each time and going forward anywhere from a couple of days to almost a month.

Every now and then, I had a stamped, addressed envelope to mail at a corner box. They were addressed to different stock brokers and when I got one open before mailing it and took a look inside, it turned out to be an order to buy a few hundred shares of stock in a soft drink company in the name of Dr. Anthony Roberts. I hadn't remembered the price of the shares being that low. The last time I'd seen the quotation, it was more than five times as much as it was then. I

as making dough myself, but I was doing even better for May Roberts.

A few times I had to stay around for an hour or so. There was the night I found myself in a flashy speakeasy with two envelopes that I was to bet the contents of, according to the instructions on the outside. It was June 21, 1932, and I had to bet on Jack Sharkey to take the heavyweight title away from Max Schmeling.

The place was serious and quiet—no more than three women, a couple of bartenders, and the rest male customers, including two cops, huddling up close to the radio. An affable character was taking bets. He gave me a wise little smile when I put the money down on Sharkey.

"Well, it's a pleasure to do business with a man who wants an American to win," he said, "and the hell with the smart dough, eh?"

"Yeah," I said, and tried to smile back, but so much of the smart money was going on Schmeling that I wondered if May Roberts hadn't made a mistake. I couldn't remember who had won. "You know what J. P. Morgan said—don't sell America short."

"I'll take a buck for my share," said a sour guy who barely managed to stand. "Lousy grass growing in the lousy streets, no-

body working, no future, nothing!"

"We'll come out of it okay," I told him confidently.

He snorted into his gin. "Not in our lifetime, Mac. It'd take a miracle to put this country on its feet again. I don't believe in miracles." He put his scowling face up close to mine and breathed blearily and belligerently at me. "Do you?"

"Shut up, Gus," one of the bartenders said. "The fight's starting."

I HAD some tough moments and a lot of bad Scotch, listening. It went the whole 15 rounds, Sharkey won, and I was in almost as bad shape as Gus, who'd passed out halfway through the battle. All I can recall is the affable character handing over a big roll and saying, "Lucky for me more guys don't sell America short," and trying to separate the money into the right amounts and put them into the right envelopes, while stumbling out the door, when everything changed and I was outside a bank again.

I thought, "My God, what a hangover cure!" I was as sober as if I hadn't had a drink, when I made that deposit.

There were more envelopes to mail and more deposits to make and bets to put down on Singing

Wood in 1933 at Belmont Park and Max Baer over Primo Carnera, and then Cavalcade at Churchill Downs in 1934, and James Braddock over Baer in 1935, and a big daily double pay-off, Wanoah-Arakay at Tropical Park, and so on, skipping through the years like a flat stone over water, touching here and there for a few minutes to an hour at a time. I kept the envelopes for May Roberts and myself in different pockets and the bankbooks in another. The envelopes were beginning to bulge and the deposits and accrued interest were something to watch grow.

The whole thing, in fact, was so exciting that it was early October of 1938—a total of maybe four or five hours subjectively—before I realized what she had me doing. I wasn't thinking much about the fact that I was time traveling or how she did it; I accepted that, though the sensation in some ways was creepy, like raising the dead. My father and mother, for instance, were still alive in 1938. If I could break away from whatever it was that kept pulling me jumpily through time, I could go and see them.

The thought, attracted me enough to make me shake badly with intent, yet pump dread through me. I wanted so damned badly to see them again and I

didn't dare. I couldn't . . .

Why couldn't I?

Maybe the machine covered only the area around the various banks, speakeasies, bars and horse parlors. If I could get out of the area, whatever it might be, I could avoid coming back to whatever May Roberts had lined up for me.

Because, naturally, I knew now what I was doing: I was making deposits and winning sure bets just as the "senile psychotics" had done. The ink on their bankbooks and bills was fresh because it was fresh; it wasn't given a chance to oxidize—at the rate I was going, I'd be back to my own time in another few hours or so, with \$15,000 or better in deposits, compound interest and cash.

If I'd been around 70, you see, she could have sent me back to the beginning of the century with the same amount of money, which would have accumulated to something like \$30,000.

Get it now?

I did.

And I felt sick and frightened.

The old people had died of starvation somehow with all that dough in cash or banks. I didn't give a hang if the time travel was responsible, or something else was. I wasn't going to be found dead in my hotel and have Lou Pape curse my corpse because

I'd been borrowing from him when, since 1931, I'd had a little fortune put away. He'd call me a premature senile psychotic and he'd be right, from his point of view, not knowing the truth.

RATHER than make the deposit in October, 1938, I grabbed a battered old cab and told the driver to step on it. When I showed him the \$10 bill that was in it for him, he squashed down the gas pedal. In 1938, \$10 was real money.

We got a mile away from the bank and the driver looked at me in the rear-view mirror.

"How far you want to go, mister?"

My teeth were together so hard that I had to unclench them before I could answer, "As far away as we can get."

"Cops after you?"

"No, but somebody is. Don't be surprised at anything that happens, no matter what it is."

"You mean like getting shot at?" he asked worriedly, slowing down.

"You're not in any danger, friend. I am. Relax and step on it again."

I wondered if she could still reach me, this far from the bank, and handed the guy the bill. No justice sticking him for the ride in case she should. He pushed the pedal down even harder than

he had been doing before.

We must have been close to three miles away when I blinked and was standing outside the first bank I'd seen in 1931.

I don't know what the cab driver thought when I vanished out of his hack. He probably figured I'd opened the door and jumped while he wasn't looking. Maybe he even went back and searched for a body splashed all over the street.

Well, it would have been a hopeless hunt. I was a week ahead.

I gave up and drearily made my deposit. The one from early October that I'd missed I put in with this one.

There was no way to escape the babe with the beautiful hard face, gorgeous warm body and plans for me that all seemed to add up to death. I didn't try any more. I went on making deposits, mailing orders to her stock brokers, and putting down bets that couldn't miss because they were all past history.

I don't even remember what the last one was, a fight or a race. I hung around the bar that had long ago replaced the speak-easy, until the inevitable payoff, got myself a hamburger and headed out the door. All the envelopes I was supposed to use were gone and I felt shaky, knowing that the next place I'd see

was the room with the wire mesh cage and the hooded motors.

It was.

SHE was on the other side of the cage, and I had five bankbooks and envelopes filled with cash amounting to more than \$15,000, but all I could think of was that I was hungry and something had happened to the hamburger while I was traveling through time. I must have fallen and dropped it, because my hand was covered with dust or dirt. I brushed it off and quickly felt my face and pulled up my sleeves to look at my arms.

"Very smart," I said, "but I'm nowhere near emaciation."

"What made you think you would be?" she asked.

"Because the others always were."

She cut the motors to idling speed and the vibrating mesh slowed down. I glared at her through it. God, she was lovely—as lovely as an ice sculpture! The kind of face you'd love to kiss and slap, kiss and slap . . .

"You came here with a pre-conceived notion, Mr. Weldon. I'm a businesswoman, not a monster. I like to think there's even a good deal of the altruist in me. I could hire only young people, but the old ones have more trouble finding work. And you've seen for yourself how I provide

nest eggs for them they'd otherwise never have."

"And take care of yourself at the same time."

"That's the businesswoman in me. I need money to operate."

"So do the old people. Only they die and you don't."

She opened the gate and invited me out. "I make mistakes occasionally. I sometimes pick men and women who prove to be too old to stand the strain. I try not to let it happen, but they need money and work so badly that they don't always tell the truth about their age and state of health."

"You could take those who have social security cards and references."

"But those who don't have any are in worse need!" She paused. "You probably think I want only the money you and they bring back, that it's merely some sort of profit-making scheme. It isn't."

"You mean the idea is not just to build up a fortune for you with a cut for whoever helps you do it?"

"I said I need money to operate, Mr. Weldon, and this method serves. But there are other purposes, much more important. What you have gone through is—basic training, you might say. You know now that it's possible to travel through time, and what

it's like. The initial shock, in other words, is gone and you're better equipped to do something for me in another era."

"Something else?" I stared at her puzzledly. "What else could you want?"

"Let's have dinner first. You must be hungry."

I WAS, and that reminded me: "I bought a hamburger just before you brought me back. I don't know what happened to it. My hand was dirty and the hamburger was gone, as if I'd fallen somehow and dropped it and got dirt on my hand."

She looked worriedly at the hand, probably afraid I'd cut it and disqualified myself. I could understand that; you never know what kind of diseases can be picked up in different times, because I remember reading somewhere that germs keep changing according to conditions. Right now, for instance, strains of bacteria are becoming resistant to antibiotics. I knew her concern wasn't really for me, but it was pleasant all the same.

"That could be the explanation, I suppose," she said. "The truth is that I've never taken a time voyage—somebody has to operate the controls in the present—so I can't say it's possible or impossible to fall. It must be, since you did. Perhaps the

wrench back from the past was too violent and you slipped just before you returned."

She led me down to an ornate dining room, where the table had been set for two. The food was waiting on the table, steaming and smelling tasty. Nobody was around to serve us. She pointed out a chair to me and we sat down and began eating. I was a little nervous at first, afraid there might be something in the food, but it tasted fine and nothing happened after I swallowed a little and waited for some effect.

"You did try to escape the time tractor beam, didn't you, Mr. Weldon?" she asked. I didn't have to answer; she knew. "That's a mistaken notion of how it functions. The control beam doesn't cover area; it covers era. You could have flown to any part of the world and the beam would still have brought you back. Do I make myself clear?"

She did. Too bloody clear. I waited for the rest.

"I assume you've already formed an opinion of me," she went on. "A rather unflattering one, I imagine."

"'Bitch' is the cleanest word I can find. But a clever one. Anybody who can invent a time machine would have to be a genius."

"I didn't invent it. My father did—Dr. Anthony Roberts—us-

ing the funds you and others helped me provide him with." Her face grew soft and tender. "My father was a wonderful man, a great man, but he was called a crackpot. He was kept from teaching or working anywhere. It was just as well, I suppose, though he was too hurt to think so; he had more leisure to develop the time machine. He could have used it to extort repayment from mankind for his humiliation, but he didn't. He used it to help mankind."

"Like how?" I goaded.

"It doesn't matter, Mr. Weldon. You're determined to hate me and consider me a liar. Nothing I tell you can change that."

SHE was right about the first part—I hadn't dared let myself do anything except hate and fear her—but she was wrong about the second. I remembered thinking how Lou Pape would have felt if I had died of starvation with over \$15,000, after borrowing from him all the time between jobs. Not knowing how I got it, he'd have been sore, thinking I'd played him for a patsy. What I'm trying to say is that Lou wouldn't have had enough information to judge me. I didn't have enough information yet, either, to judge her.

"What do you want me to do?" I asked warily.

"Everybody but one person was sent into the past on specific errands—to save art treasures and relics that would otherwise have been lost to humanity."

"Not because the things might be worth a lot of dough?" I said nastily.

"You've already seen that I can get all the money I want. There were upheavals in the past—great fires, wars, revolutions, vandalism—and I had my associates save things that would have been destroyed. Oh, beautiful things, Mr. Weldon! The world would have been so much poorer without them!"

"El Greco, for instance?" I asked, remembering the raving old man who had been found wandering with \$17,000 in his coat lining.

"El Greco, too. Several paintings that had been lost for centuries." She became more brisk and efficient-seeming. "Except for the one man I mentioned, I concentrated on the past—the future is too completely unknown to us. And there's an additional reason why I tentatively explored it only once. But the one person who went there discovered something that would be of immense value to the world."

"What happened to *him*?"

She looked regretful. "He was too old. He survived just long enough to tell me that the fu-

ture has something we need. It's a metal box, small enough to carry, that could supply this whole city with power to run its industries and light its homes and streets!"

"Sounds good. Who'd you say benefits if I get it?"

"We share the profits equally, of course. But it must be understood that we sell the power so cheaply that everybody can afford it."

"I'm not arguing. What's the other reason you didn't bother with the future?"

"You can't bring anything from the future to the present that doesn't exist right now. I won't go into the theory, but it should be obvious that nothing can exist before it exists. You can't bring the box I want, only the technical data to build one."

"Technical data? I'm an actor, not a scientist."

"You'll have pens and weatherproof notebooks to copy it down in."

I COULDN'T make up my mind about her. I've already said she was beautiful, which always prejudices a man in a woman's favor, but I couldn't forget the starvation cases. They hadn't shared anything but malnutrition, useless money and death. Then again, maybe her explanation was a good one, that

she wanted to help those who needed help most and some of them lied about their age and physical condition because they wanted the jobs so badly. All I knew about were those who had died. How did I know there weren't others—a lot more of them than the fatal cases, perhaps—who came through all right and were able to enjoy their little fortunes?

And there was her story about saving the treasures of the past and wanting to provide power at really low cost. She was right about one thing: she didn't need any of that to make money with; her method was plenty good enough, using the actual records of the past to invest in stocks, bet on sports—all sure gambles.

But those starvation cases . . .

"Do I get any guarantees?" I demanded.

She looked annoyed. "I'll need you for the data. You'll need me to turn it into manufacture. Is that enough of a guarantee?"

"No. Do I come out of this alive?"

"Mr. Weldon, please use some logic. I'm the one who's taking the risk. I've already given you more money than you've ever had at one time in your life. Part of my motive was to pay for services about to be rendered. Mostly, it was to give you experience in traveling through time."

"And to prove to me that I can't run out," I added.

"That happens to be a necessary attribute of the machine. I couldn't very well move you about through time unless it worked that way. If you'd look at my point of view, you'd see that I lose my investment if you don't bring back the data. I can't withdraw your money, you realize."

"I don't know what to think," I said, dissatisfied with myself because I couldn't find out what, if anything, was wrong with the deal. "I'll get you the data for the power box if it's at all possible and then we'll see what happens."

Finished eating, we went upstairs and I got into the cage.

She closed the circuit. The motors screamed. The mesh blurred.

And I was in a world I never knew.

YOU'D call it a city, I suppose; there were enough buildings to make it one. But no city ever had so much greenery. It wasn't just tree-lined streets, like Unter den Linden in Berlin, or islands covered with shrubbery, like Park Avenue, in New York. The grass and trees and shrubs grew around every building, separating them from each other by wide lawns. The buildings were

more glass—or what looked like glass—than anything else. A few of the windows were opaque against the sun, but I couldn't see any shades or blinds. Some kind of polarizing glass or plastic?

I felt uneasy being there, but it was a thrill just the same, to be alive in the future when I and everybody who lived in my day was supposed to be dead.

The air smelled like the country. There was no foul gas boiling from the teardrop cars on the glass-level road. They were made of transparent plastic clear around and from top to bottom, and they moved along at a fair clip, but more smoothly than swiftly. If I hadn't seen the airship overhead, I wouldn't have known it was there. It flew silently, a graceful ball without wings, seeming to be borne by the wind from one horizon to the other, except that no wind ever moved that fast.

One car stopped nearby and someone shouted, "Here we are!" Several people leaped out and headed for me.

I didn't think. I ran. I crossed the lawn and ducked into the nearest building and dodged through long, smoothly walled, shadowlessly lit corridors until I found a door that would open. I slammed it shut and locked it. Then, panting, I fell into a soft



chair that seemed to form itself around my body, and felt like kicking myself for the bloody idiot I was.

What in hell had I run for? They couldn't have known who I was. If I'd arrived in a time when people wore togas or bathing suits, there would have been some reason for singling me out, but they had all had clothes just like ours — suits and shirts and ties for the men, a dress and high heels for the one woman with them. I felt somewhat disappointed that clothes hadn't changed any, but it worked out to my advantage; I wouldn't be so conspicuous.

Yet why should anyone have yelled "Here we are!" unless... No, they must have thought I was somebody else. It didn't figure any other way. I had run because it was my first startled reaction and probably because I knew I was there on what might be considered illegal business; if I succeeded, some poor inventor would be done out of his royalties.

I wished I hadn't run. Besides making me feel like a scared fool, I was sweaty and out of breath. Playing old men doesn't make climbing down fire escapes much tougher than it should be, but it doesn't exactly make a sprinter out of you — not by several lungfuls.

I SAT there, breathing hard and trying to guess what next. I had no more idea of where to go for what I wanted than an ancient Egyptian set down in the middle of Times Square with instructions to sneak a mummy out of the Metropolitan Museum. I didn't even have that much information. I didn't know any part of the city, how it was laid out, or where to get the data that May Roberts had sent me for.

I opened the door quietly and looked both ways before going out. After losing myself in the cross-connecting corridors a few times, I finally came to an outside door. I stopped, tense, trying to get my courage. My inclination was to slip, sneak or dart out, but I made myself walk away like a decent, innocent citizen. That was one disguise they'd never be able to crack. All I had to do was act as if I belonged to that time and place and who would know the difference?

There were other people walking as if they were in no hurry to get anywhere. I slowed down to their speed, but I wished wistfully that there was a crowd to dive into and get lost.

A man dropped into step and said politely, "I beg your pardon. Are you a stranger in town?"

I almost halted in alarm, but that might have been a giveaway. "What makes you think so?" I

asked, forcing myself to keep at the same easy pace.

"I—didn't recognize your face and I thought—"

"It's a big city," I said coldly. "You can't know everyone."

"If there's anything I can do to help—"

I told him there wasn't and left him standing there. It was plain common sense, I had decided quickly while he was talking to me, not to take any risks by admitting anything. I might have been dumped into a police state or the country could have been at war without my knowing it, or maybe they were suspicious of strangers. For one reason or another, ranging from vagrancy to espionage, I could be pulled in, tortured, executed, God knows what. The place looked peaceful enough, but that didn't prove a thing.

I went on walking, looking for something I couldn't be sure existed, in a city I was completely unfamiliar with, in a time when I had no right to be alive. It wasn't just a matter of getting the information she wanted. I'd have been satisfied to hang around until she pulled me back without the data . . .

But then what would happen? Maybe the starvation cases were people who had failed her! For that matter, she could shoot me and send the remains anywhere

in time to get rid of the evidence.

Damn it, I didn't know if she was better or worse than I'd supposed, but I wasn't going to take any chances. I had to bring her what she wanted.

THERE was a sign up ahead. It read: TO SHOPPING CENTER. The arrow pointed along the road. When I came to a fork and wondered which way to go, there was another sign, then another pointing to still more farther on.

I followed them to the middle of the city, a big square with a park in the center and shops of all kinds rimming it. The only shop I was interested in said: ELECTRICAL APPLIANCES.

I went in.

A neat young salesman came up and politely asked me if he could do anything for me. I sounded stupid even to myself, but I said, "No, thanks, I'd just like to do a little browsing," and gave a silly nervous laugh. Me, an actor, behaving like a frightened yokel! I felt ashamed of myself.

He tried not to look surprised, but he didn't really succeed. Somebody else came in, though, for which I was grateful, and he left me alone to look around.

I don't know if I can get my feelings across to you. It's a situation that nobody would ever expect to find himself in, so it

isn't easy to tell what it's like. But I've got to try.

Let's stick with the ancient Egyptian I mentioned a while back, the one ordered to sneak a mummy out of the Metropolitan Museum. Maybe that'll make it clearer.

The poor guy has no money he can use, naturally, and no idea of what New York's transportation system is like, where the museum is, how to get there, what visitors to a museum do and say, the regulations he might unwittingly break, how much an ordinary citizen is supposed to know about which customs and such. Now add the possible danger that he might be slapped into jail or an insane asylum if he makes a mistake and you've got a rough notion of the spot I felt I was in. Being able to speak English doesn't make much difference; not knowing what's regarded as right and wrong, and the unknown consequences, are enough to panic anybody.

That doesn't make it clear enough.

Well, look, take the electrical appliances in that store; that might give you an idea of the situation and the way it affected me.

The appliances must have been as familiar to the people of that time as toasters and TV sets and lamps are to us. But the things

didn't make a bit of sense to me . . . any more than our appliances would to the ancient Egyptian. Can you imagine him trying to figure out what those items are for and how they work?

HERE are some gadgets you can puzzle over:

There was a light fixture that you put against any part of a wall—no screws, no cement, no wires, even—and it held there and lit up, and it stayed lit no matter where you moved it on the wall. Talk about pin-up lamps . . . this was really it!

Then I came across something that looked like an ashtray with a blue electric shimmer obscuring the bottom of the bowl. I lit my pipe—others I'd passed had been smoking, so I knew it was safe to do the same—and flicked in the match. It disappeared. I don't mean it was swirled into some hidden compartment. *It vanished.* I emptied the pipe into the ashtray and that went, too. Looking around to make sure nobody was watching. I dredged some coins out of my pocket and let them drop into the tray. They were gone. Not a particle of them was left. A disintegrator? I haven't got the slightest idea.

There were little mirror boxes with three tiny dials on the front of each. I turned the dials on one—it was like using three dial

telephones at the same time—and a pretty girl's face popped onto the mirror surface and looked expectantly at me.

"Yes?" she said, and waited for me to answer.

"I — uh — wrong number, I guess," I answered, putting the box down in a hurry and going to the other side of the shop because I didn't have even a dim notion how to turn it off.

The thing I was looking for was on a counter—a tinted metal box no bigger than a suitcase, with a lipped hole on top and small undisguised verniers in front. I didn't know I'd found it, actually, until I twisted a vernier and every light in the store suddenly glared and the salesman came rushing over and politely moved me aside to shut it off.

"We don't want to burn out every appliance in the place, do we?" he asked quietly.

"I just wanted to see if it worked all right," I said, still shaking slightly. It could have blown up or electrocuted me, for all I knew.

"But they always work," he said.

"Ah—always?"

"Of course. The principle is simple and there are no parts to get worn out, so they last indefinitely." He suddenly smiled as if he'd just caught the gist. "Oh,

you were joking! Naturally — everybody learns about the Dynapack in primary education. You were interested in acquiring one?"

"No, no. The—the old one is good enough. I was just—well, you know, interested in knowing if the new models are much different or better than the old ones."

"But there haven't been any new models since 2073," he said. "Can you think of any reason why there should be?"

"I—guess not," I stammered. "But you never can tell."

"You can with Dynapacks," he said, and he would have gone on if I hadn't lost my nerve and mumbled my way out of the store as fast as I could.

YOU want to know why? He'd asked me if I wanted to "acquire" a Dynapack, not *buy* one. I didn't know what "acquire" meant in that society. It could be anything from saving up coupons to winning whatever you wanted at some kind of lottery, or maybe working up the right number of labor units on the job—in which case he'd want to know where I was employed and the equivalent of social security and similar information, which I naturally didn't have—or it could just be fancy sales talk for buying.

I couldn't guess, and I didn't

care to expose myself any more than I had already. And my blunder about the Dynapack working and the new models was nothing to make me feel at all easier.

Lord, the uncertainties and hazards of being in a world you don't know anything about! Daydreaming about visiting another age may be pleasant, but the reality is something else again.

"Wait a minute, friend!" I heard the salesman call out behind me.

I looked back as casually, I hoped, as the pedestrians who heard him. He was walking quickly toward me with a very worried expression on his face. I stepped up my own pace as unobtrusively as possible, trying to keep a lot of people between us, meanwhile praying that they'd think I was just somebody who was late for an appointment. The salesman didn't break into a run or yell for the cops, but I couldn't be sure he wouldn't.

As soon as I came to a corner, I turned it and ran like hell. There was a sort of alley down the block. I jumped into it, found a basement door and stayed inside, pressed against the wall, quivering with tension and sucking air like a swimmer who'd stayed underwater too long.

Even after I got my wind back,

I wasn't anxious to go out. The place could have been cordoned off, with the police, the army and the navy all cooperating to nab me.

What made me think so? Not a thing except remembering how puzzled our ancient Egyptian would have been if he got arrested in the subway for something everybody did casually and without punishment in his own time—spitting! I could have done something just as innocent, as far as you and I are concerned, that this era would consider a misdemeanor or a major crime. And in what age was ignorance of the law ever an excuse?

Instead of going back out, I prowled carefully into the building. It was strangely silent and deserted. I couldn't understand why until I came to a lavatory. There were little commodes and wash basins that came up to barely above my knees. The place was a school. Naturally it was deserted—the kids were through for the day.

I could feel the tension dissolve in me like a ramrod of ice melting, no longer keeping my back and neck stiff and taut. There probably wasn't a better place in the city for me to hide.

A primary school!

The salesman had said to me, "Everybody learns about the Dynapack in primary education."

GOING through the school was eerie, like visiting a familiar childhood scene that had been distorted by time into something almost totally unrecognizable.

There were no blackboards, teacher's big desk, children's little desks, inkwells, pointers, globes or books. Yet it was a school. The small fixtures in the lavatory downstairs had told me that, and so did the miniature chairs drawn neatly under the low, vividly painted tables in the various schoolrooms. A large comfortable chair was evidently where the teacher sat when not wandering around among the pupils.

In front of each chair, firmly attached to the table, was a box with a screen, and both sides of the box held spools of wire on blunt little spindles. The spools had large, clear numbers on them. Near the teacher's chair was a compact case with more spools on spindles, and there was a large screen on the inside wall, opposite the enormous windows.

I went into one of the rooms and sat down in the teacher's chair, wondering how I was going to find out about the Dynapack. I felt like an archeologist guessing at the functions of strange relics he'd found in a dead city.

Sitting in the chair was like sitting on a column of air that

let me sit upright or slump as I chose. One of the arms had a row of buttons. I pressed one and waited nervously to find out if I'd done something that would get me into trouble.

Concealed lights in the ceiling and walls began glowing, getting brighter, while the room gradually turned dark. I glanced around bewilderedly to see why, because it was still daylight.

The windows seemed to be sliding slightly, very slowly, and as they slid, the sunlight was damped out. I grinned, thinking of what my ancient Egyptian would make of that. I knew there were two sheets of polarizing glass, probably with a vacuum between to keep out the cold and the heat, and the lights in the room were beautifully synchronized with the polarized sliding glass.

I wasn't doing so badly. The rest of the objects might not be too hard to figure out.

The spools in the case alongside the teacher's chair could be wire recordings. I looked for something to play them with, but there was no sign of a playback machine. I tried to lift a spool off a spindle. It wouldn't come off.

Hah! The wire led down the spindle to the base of the box, holding the spool in place. That meant the spools could be played

right in that position. But what started them playing?

I HUNTED over the box minutely. Every part of it was featureless—no dials, switches or any unfamiliar counterparts. I even tried moving my hands over it, figuring it might be like a thermostat, and spoke to it in different shades of command, because it could have been built to respond to vocal orders. Nothing happened.

Remember the Poe story that shows the best place to hide something is right out in the open, which is the last place anyone would look? Well, these things weren't manufactured to baffle people, any more than our devices generally are. But it's only by trying everything that somebody who didn't know what a switch is would start up a vacuum cleaner, say, or light a big chandelier from a wall clear across the room.

I'd pressed every inch of the box, hoping some part of it might act as a switch, and I finally touched one of the spindles. The spool immediately began spinning at a very low speed and the screen on the wall opposite the window glowed into life.

"The history of the exploration of the Solar System," said an announcer's deep voice, "is one of the most adventuresome

in mankind's long list of achievements. Beginning with the crude rockets developed during World War II . . ."

There were newsreel shots of V-1 and V-2 being blasted from their takeoff ramps and a montage of later experimental models. I wished I could see how it all turned out, but I was afraid to waste the time watching. At any moment, I might hear the footsteps of a guard or janitor or whoever tended buildings then.

I pushed the spindle again. It checked the spool, which rewound swiftly and silently, and stopped itself when the rewinding was finished. I tried another. A nightmare underwater scene appeared.

"With the aid of energy screens," said another voice, "the oceans of the world were completely charted by the year 2027 . . ."

I turned it off, then another on developments in medicine, one on architecture, one on history, the geography of such places as the interior of South America and Africa that were—or are—unknown today, and I was getting frantic, starting the wonderful wire films that held full-frequency sound and pictures in absolutely faithful color, and shutting them off hastily when I discovered they didn't have what I was looking for.



They were courses for children, but they all contained information that our scientists are still groping for . . . and I couldn't chance watching one all the way through!

I was frustratedly switching off a film on psychology when a female voice said from the door, "May I help you?"

I SNAPPED around to face her in sudden fright. She was young and slim and slight, but she could scream loud enough to get help. Judging by the way she was looking at me, outwardly polite and yet visibly nervous, that scream would be coming at any second.

"I must have wandered in here by mistake," I said, and pushed past her to the corridor, where I began running back the way I had come.

"But you don't understand!" she cried after me. "I really want to help—"

Yeah, help, I thought, pounding toward the street door. A gag—right out of that psychology film, probably—get the patient to hold still, humor him, until you can get somebody to put him where he belongs. That's what one of our teachers would do, provided she wasn't too scared to think straight, if she found an old-looking guy thumbing frenziedly through the textbooks in a gram-

mar school classroom.

When I came to the outside door, I stopped. I had no way of knowing whether she'd given out an alarm, or how she might have done it, but the obvious place to find me would be out on the street, dodging for cover somewhere.

I pushed the door open and let it slam shut, hoping she'd hear it upstairs. Then I found a door, sneaked it open and went silently down the steps.

In the basement, I looked for a furnace or a coal bin or a fuel tank to hide behind, but there weren't any. I don't know how they got their heat in the winter or cooled the building in the summer. Probably some central atomic plant that took care of the whole city, piping in the heat or coolant in underground conduits that were led up through the walls, because there weren't even any pipes visible.

I hunched into the darkest corner I could find and hoped they wouldn't look for me there.

BY the time night came, hunger drove me out of the school, but I did it warily, making sure nobody was in sight.

The streets of the shopping center were more or less deserted. There was no sign of a restaurant. I was so empty that I felt dizzy as I hunted for one. But

then a shocking realization made me halt on the sidewalk and sweat with horror.

Even if there had been a restaurant, what would I have used for money?

Now I got the whole foul picture. She had sent old people back through time on errands like mine . . . and they'd starved to death because they couldn't buy food!

No, that wasn't right. I remembered what I had told Lou Tape: anybody who gets hungry enough can always find a truck garden or a food store to rob.

Only . . . I hadn't seen a truck garden or food store anywhere in this city.

And . . . I thought about people in the past having their hands cut off for stealing a loaf of bread.

This civilization didn't look as if it went in for such drastic punishments, assuming I could find a loaf of bread to steal. But neither did most of the civilizations that practiced those barbarisms.

I was more tired, hungry and scared than I'd ever believed a human being could get. Lost, completely lost in a totally alien world, but one in which I could still be killed or starve to death . . . and God knew what was waiting for me in my own time in case I came back without the

information she wanted.

Or maybe even if I came back with it!

That suspicion made up my mind for me. Whatever happened to me now couldn't be worse than what she might do. At least I didn't have to starve.

I stopped a man in the street. I let several others go by before picking him deliberately because he was middle-aged, had a kindly face, and was smaller than me, so I could slug him and run if he raised a row.

"Look, friend," I told him, "I'm just passing through town—"

"Ah?" he said pleasantly.

"—And I seem to have mislaid—" No, that was dangerous. I'd been about to say I'd mislaid my wallet, but I still didn't know whether they used money in this era. He waited with a patient, friendly smile while I decided just how to put it. "The fact is that I haven't eaten all day and I wonder if you could help me get a meal."

He said in the most neighborly voice imaginable, "I'll be glad to do anything I can, Mr. Weldon."

MY entire face seemed to drop open. "You — you called me—"

"Mr. Weldon," he repeated, still looking up at me with that neighborly smile. "Mark Weld-

on, isn't it? From the 20th Century?"

I tried to answer, but my throat had tightened up worse than on any opening night I'd ever had to live through. I nodded, wondering terrifiedly what was going on.

"Please relax," he said persuasively. "You're not in any danger whatever. We offer you our utmost hospitality. Our time, you might say, is your time."

"You know who I am," I managed to get out through my constricted glottis. "I've been doing all this running and ducking and hiding for nothing."

He shrugged sympathetically. "Everyone in the city was instructed to help you, but you were so nervous that we were afraid to alarm you with a direct approach. Every time we tried to, as a matter of fact, you vanished into one place or another. We didn't follow for fear of the effect on you. We had to wait until you came voluntarily to us."

My brain was racing again and getting nowhere. Part of it was dizziness from hunger, but only part. The rest was plain frightened confusion.

They knew who I was. They'd been expecting me. They probably even knew what I was after.

And they wanted to help!

"Let's not go into explanations now," he said, "although

I'd like to smooth away the bewilderment and fear on your face. But you need to be fed first. Then we'll call in the others and—"

I pulled back. "What others? How do I know you're not setting up something for me that I'll wish I hadn't gotten into?"

"Before you approached me, Mr. Weldon, you first had to decide that we represented no greater menace than May Roberts. Please believe me, we don't."

So he knew about that, too!

"All right, I'll take my chances," I gave in resignedly. "Where does a guy find a place to eat in this city?"

IT was a handsome restaurant with soft light coming from three-dimensional, full-color nature murals that I might mistakenly have walked into if I'd been alone, they looked so much like gardens and forests and plains. It was no wonder I couldn't find a restaurant or food store or truck garden anywhere—food came up through pneumatic chutes in each building. I'd been told on the way over, grown in hydroponic tanks in cities that specialized in agriculture, and those who wanted to eat "out" could drop into the restaurant each building had. Every city had its own function. This one was for people in the arts. I liked that.

There was a glowing menu on the table with buttons alongside the various selections. I looked starvingly at the items, trying to decide which I wanted most. I picked oysters, onion soup, breast of guinea hen under plexiglas and was hunting for the tastiest and most recognizable dessert when the pleasant little guy shook his head regretfully and emphatically.

"I'm afraid you can't eat any of those foods, Mr. Weldon," he said in a sad voice. "We'll explain why in a moment."

A waiter and the manager came over. They obviously didn't want to stare at me, but they couldn't help it. I couldn't blame them. I'd have stared at somebody from George Washington's time, which is about what I must have represented to them.

"Will you please arrange to have the special food for Mr. Weldon delivered here immediately?" the little guy asked.

"Every restaurant has been standing by for this, Mr. Carr," said the manager. "It's on its way. Prepared, of course—it's been ready since he first arrived."

"Fine," said the little guy, Carr. "It can't be too soon. He's very hungry."

I glanced around and noticed for the first time that there was nobody else in the restaurant. It was past the dinner hour, but,

even so, there are always late diners. We had the place all to ourselves and it bothered me. They could have ganged up on me . . .

But they didn't. A light gong sounded, and the waiter and manager hurried over to a slot of a door and brought out a couple of trays loaded with covered dishes.

"Your dinner, Mr. Weldon," the manager said, putting the plates in front of me and removing the lids.

I stared down at the food.

"This," I told them angrily, "is a hell of a trick to play on a starving man!"

THEY all looked unhappy.

"Mashed dehydrated potatoes, canned meat and canned vegetables," Carr replied. "Not very appetizing. I know, but I'm afraid it's all we can allow you to eat."

I took the cover off the dessert dish.

"Dried fruits!" I said in disgust.

"Rather excessively dried, I'm sorry to say," the manager agreed mournfully.

I sipped the blue stuff in a glass and almost spat it out. "Powdered milk! Are these things what you people have to live on?"

"No, our diet is quite varied," Carr said in embarrassment.

"But we unfortunately can't give you any of the foods we normally eat ourselves."

"And why in blazes not?"

"Please eat, Mr. Weldon," Carr begged with frantic earnestness. "There's so much to explain—this is part of it, of course—and it would be best if you heard it on a full stomach."

I was famished enough to get the stuff down, which wasn't easy; uninviting as it looked, it tasted still worse.

When I was through, Carr pushed several buttons on the glowing menu. Dishes came up from an opening in the center of the table and he showed me the luscious foods they contained.

"Given your choice," he said, "you'd have preferred them to what you have eaten. Isn't that so, Mr. Weldon?"

"You bet I would!" I answered, sore because I hadn't been given that choice.

"And you would have died like the pathetic old people you were investigating," said a voice behind me.

I turned around, startled. Several men and women had come in while I'd been eating, their footsteps as silent as cats on a rug. I looked blankly from them to Carr and back again.

"These are the clothes we ordinarily wear," Carr said. "An 18th Century motif, as you can

see—updated knee breeches and shirt waists, a modified stock for the men, the daring low bodices of that era, the full skirts treated in a modern way by using sheer materials for the women, bright colors and sheens, buckled shoes of spun synthetics. Very gay, very ornamental, very comfortable, and thoroughly suitable to our time."

"But everybody I saw was dressed like me!" I protested.

"Only to keep you from feeling more conspicuous and anxious than you already were. It was quite a project, I can tell you—your styles varied so greatly from decade to decade, especially those for women—and the materials were a genuine problem; they'd gone out of existence long ago. We had the textile and tailoring cities working a full six months to clothe the inhabitants of this city, including, of course, the children. Everybody had to be clad as your contemporaries were, because we knew only that you would arrive in this vicinity, not where you might wander through the city."

"There was one small difference you didn't notice," added a handsome mature woman. "You were the only man in a gray suit. We had a full description of what you were wearing, you see, and we made sure nobody else was dressed that way. Naturally,



everyone knew who you were, and so we were kept informed of your movements."

"What for?" I demanded in alarm. "What's this all about?"

PULLING up chairs, they sat down, looking to me like a witchcraft jury from some old painting.

"I'm Leo Blundell," said a tall man in plum-and-gold clothes. "As chairman of—of the Mark Weldon Committee, it's my responsibility to handle this project correctly."

"Project?"

"To make certain that history is fulfilled, I have to tell you as much as you must know."

"I wish *somebody* would!"

"Very well, let me begin by telling you much of what you undoubtedly know already. In a sense, you are more a victim of Dr. Anthony Roberts than his daughter. Roberts was a brilliant physicist, but because of his eccentric behavior, he was ridiculed for his theories and hated for his arrogance. He was an almost perfect example of self-defeat, the way in which a man will hamper his career and wreck his happiness, and then blame the world for his failure and misery. To get back to his connection with you, however, he invented a time machine—unfortunately, its secret has since been lost and never re-

discovered—and used it for anti-social purposes. When he died, his daughter May carried on his work. It was she who sent you to this time to learn the principle by which the Dynapack operates. She was a thoroughly ruthless woman."

"Are you sure?" I asked uneasily.

"Quite sure."

"I know a number of old people died after she sent them on errands through time, but she said they'd lied about their age and health."

"One would expect her to say that," a woman put in cuttingly. Blundell turned to her and shook his head. "Let Mr. Weldon clarify his feelings about her, Rhoda. They are obviously very mixed."

"They are," I admitted. "She seemed hard, the first time I saw her, when I answered her ad, but she could have been just acting businesslike. I mean she had a lot of people to pick from and she had to be impersonal and make certain she had the right one. The next time—I hope you don't know about that—it was really my fault for breaking into her room. I really had a lot of admiration for the way she handled the situation."

"Go on," Carr encouraged me.

"And I can't complain about the deal she gave me. Sure, she

came out ahead on the money I bet and invested for her. But I did all right myself—I was richer than I'd ever been in my life—and she gave that money to me before I even did anything to earn it!"

"Besides which," somebody else said, "she offered you half of the profits on the Dynapack."

I LOOKED around at the faces for signs of hostility. I saw none. That was surprising. I'd come from the past to steal something from them and they weren't at all angry. Well, no, it wasn't really stealing. I wouldn't be depriving them of the Dynapack. It just would have been invented before it was supposed to be.

"She did," I said. "Though I wouldn't call that part of it philanthropy. She needed me for the data and I needed her to manufacture the things."

"And she was a very beautiful woman," Blundell added.

I squirmed a bit. "Yes."

"Mr. Weldon, we know a good deal about her from notes that have come down to us among her private papers. She had a safety deposit box under a false name. I won't tell you the name; it was not discovered until many years later, and we will not voluntarily meddle with the past."

I sat up and listened sharply. "So that's how you knew who I

was and what I'd be wearing and what I came for! You even knew when and where I'd arrive!"

"Correct," Blundell said.

"What else do you know?"

"That you suspected her of being responsible for the deaths of many old people by starvation. Your suspicion was justified, except that her father had caused all those that occurred before 1947, when she took over after his own death. All but two people were sent into the past. Roberts was curious about the future, of course, but he did not want to waste a victim on a trip that would probably be fruitless. In the past, you understand, he knew precisely what he was after. The future was completely unknown territory."

"But she took the chance," I said.

"If you can call deliberate murder taking a chance, yes. One man arrived in 2094, over fifty years ago. The other was yourself. The first one, as you know, died of malnutrition when he was brought back to your era."

"And what happened to me?" I asked, jittering.

"You will not die. We intend to make sure of that. All the other victims—I presume you're interested in their errands?"

"I think I know, but I'd like to find out just the same."

"They were sent to the past

to buy or steal treasures of various sorts—art, sculpture, jewelry, fabulously valuable manuscripts and books, anything that had great scarcity value.”

“That’s not possible,” I objected. “She had all the money she wanted. Any time she needed more, all she had to do was send somebody back to put down bets and buy stocks that she knew were winners. She had the records, didn’t she? There was no way she or her father could lose!”

HE moved his shoulders in a plum-and-gold shrug. “Most of the treasures they accumulated were for acquisition’s sake—and for the sake of vengeance for the way they believed Dr. Roberts had been treated. When there were unusual expenses, such as replacing the very costly parts of the time machine, that required more than they could produce in ready cash, both Roberts and his daughter ‘discovered’ these treasures.” *

He waited while I digested the miserable meal and the disturbing information he had given me. I thought I’d found a loophole in his explanation: “You said people were sent back to the past to *buy* treasures, besides stealing them.”

“I did,” he agreed. “They were provided with currency of what-

ever era they were to visit.”

I felt my forehead wrinkle up as my theory fell apart. “Then they could buy food. Why should they have died of malnutrition?”

“Because, as May Roberts herself told you, nothing can exist before it exists. Neither can anything exist after it is out of existence. If you returned with a Dynapack, for example, it would revert to a lump of various metals, because that was what it was in your period. But let me give you a more personal instance. Do you remember coming back from your first trip with dust on your hand?”

“Yes. I must have fallen.”

“On one hand? No, Mr. Weldon. May Roberts was greatly upset by the incident; she was afraid you would realize why the hamburger had turned to dust—and why the old people died of starvation. *All* of them, not just a few.”

He paused, giving me a chance to understand what he had just said. I did, with a sick shock.

“If I ate your food,” I said shakily, “I’d feel satisfied until I was returned to my own time. *But the food wouldn’t go along with me!*”

BLUNDELL nodded gravely. “And so you, too, would die of malnutrition. The foods we have given you existed in your

era. We were very careful of that, so careful that many of them probably were stored years before you left your time. We regret that they are not very palatable, but at least we are positive they will go back with you. You will be as healthy when you arrive in the past as when you left.

"Incidentally, she made you change your clothes for the same reason—they had been made in 1930. She had clothing from every era she wanted visited and chose old people who would fit them best. Otherwise, you see, they'd have arrived naked."

I began to shake as if I were as old as I'd pretended to be on the stage. "She's going to pull me back! If I don't bring her the information about the Dynapack, she'll shoot me!"

"That, Mr. Weldon, is our problem," Blundell said, putting his hand comfortingly on my arm to calm me.

"Your problem? I'm the one who'll get shot, not you!"

"But we know in complete detail what will happen when you are returned to the 20th Century."

I pulled my arm away and grabbed his. "You know that? Tell me!"

"I'm sorry, Mr. Weldon. If we tell you what you did, you might think of some alternate action,

and there is no knowing what the result would be."

"But I didn't get shot or die of malnutrition?"

"That much we can tell you. Neither."

They all stood up, so bright and attractive in their colorful clothes that I felt like a shirt-sleeved stage hand who'd wandered in on a costume play.

"You will be returned in a month, according to the notes May Roberts left. She gave you plenty of time to get the data, you see. We propose to make that month an enjoyable one for you. The resources of our city—and any others you care to visit—are at your disposal. We wish you to take full advantage of them."

"And the Dynapack?"

"Let us worry about that. We want you to have a good time while you are our guest."

I did.

It was the most wonderful month of my life.

THE mesh cage blurred around me. I could see May Roberts through it, her hand just leaving the switch. She was as beautiful as ever, but I saw beneath her beauty the vengeful, vicious creature her father's bitterness had turned her into; Blundell and Carr had let me read some of her notes, and I knew. I wished

I could have spent the rest of my years in the future, instead of having to come back to this.

She came over and opened the gate, smiling like an angel welcoming a bright new soul. Then her eyes traveled startledly over me and her smile almost dropped off. But she held it firmly in place.

She had to, while she asked, "Do you have the notes I sent you for?"

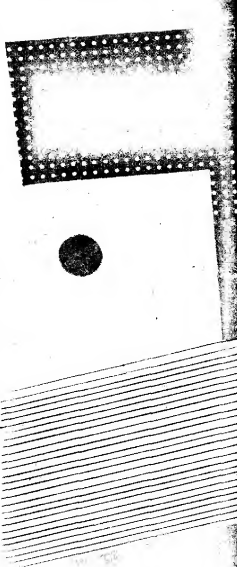
"Right here," I said.

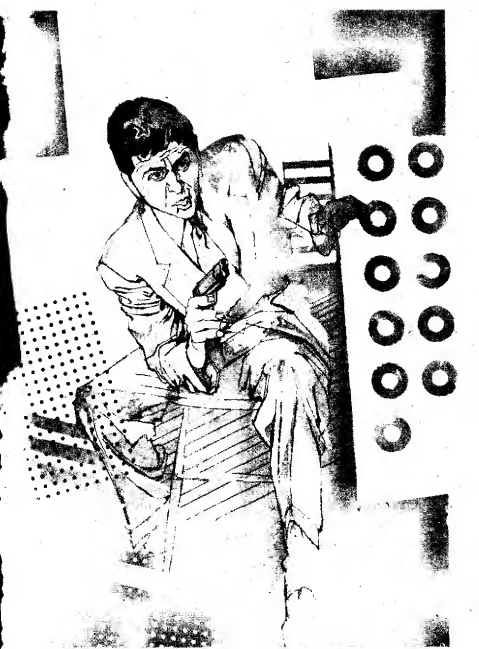
I reached into my breast pocket and brought out a stubby automatic and shot her through the right arm. Her closed hand opened and a little derringer clanked on the floor. She gaped at me with an expression of horrified surprise that should have been recorded permanently; it would have served as a model for generations of actors and actresses.

"You—brought back a weapon!" she gasped. "You shot me!" She stared vacantly at her bleeding arm and then at my automatic. "But you can't—bring anything back from the future. And you aren't—dying of malnutrition."

She said it all in a voice shocked into toneless wonder.

"The food I ate and this gun are from the present," I said. "The people of the future knew I was coming. They gave me food that wouldn't vanish from my





cells when I returned. They also gave me the gun instead of the plans for the Dynapack."

"And you took it?" she screamed at me. "You idiot! I'd have shared the profits honestly with you. You'd have been worth millions!"

"With acute malnutrition," I amended. "I like it better this way, thanks—poor, but alive. Or relatively poor, I should say, because you've been very generous and I appreciate it."

"By shooting me!"

"I hated to puncture that lovely arm, but it wasn't as painful as starving or getting shot myself. Now if you don't mind—or even if you do—it's your turn to get into the cage, Miss Roberts."

She tried to grab for the deringer on the floor with her left hand.

"Don't bother," I said quietly. "You can't reach it before a bullet reaches you."

SHE straightened up, staring at me for the first time with terror in her eyes.

"What are you going to do to me?" she whispered.

"I could kill you as easily as you could have killed me. Kill you and send your body into some other era. How many dozens of deaths were you responsible for? The law couldn't convict

you of them, but I can. And I couldn't be convicted, either."

She put her hand on the wound. Blood seeped through her fingers as she lifted her chin at me.

"I won't beg for my life, Weldon, if that's what you want. I could offer you a partnership, but I'm not really in a position to offer it, am I?"

She was magnificent, terrifyingly intelligent, brave clear through . . . and deadlier than a plague. I had to remember that.

"Into the cage," I said. "I have some friends in the future who have plans for you. I won't tell you what they are, of course; you didn't tell me what I'd go through, did you? Give my friends my fondest regards. If I can manage it, I'll visit them—and you."

She backed warily into the cage. It would have been pleasant to kiss those wonderful lips good-by. I'd thought about them for a whole month, wanting them and loathing them at the same time.

It would have been like kissing a coral snake. I knew it and I concentrated on shutting the gate on her.

"You'd like to be rich, wouldn't you, Weldon?" she asked through the mesh.

"I can be," I said. "I have the machine. I can send people into

the past or future and make myself a pile of dough. Only I'd give them food to take along. I wouldn't kill them off to keep the secret to myself. Anything else on your mind?"

"You want me," she stated.

I didn't argue.

"You could have me."

"Just long enough to get my throat slit or brains blown out. I don't want anything that much."

I rammed the switch closed.

The mesh cage blurred and she was gone. Her blood was on the floor, but she was gone into the future I had just come from.

That was when the reaction hit me. I'd escaped starvation and her gun, but I wasn't a hero and the release of tension flipped my stomach over and unhinged my knees.

Shaking badly, I stumbled through the big, empty house until I found a phone.

LOU PAPE got there so quickly that I still hadn't gotten over the tremors, in spite of a bottle of brandy I dug out of a credenza, maybe because the date on the label, 1763, gave me a new case of the shivers.

I could see the worry on Lou's face vanish when he assured himself that I was all right. It came back again, though, when I told him what had happened. He

didn't believe any of it, naturally. I guess I hadn't really expected him to.

"If I didn't know you, Mark," he said, shaking his big, dark head unhappily, "I'd send you over to Bellevue for observation. Even knowing you, maybe that's what I ought to do."

"All right, let's see if there's any proof," I suggested tiredly. "From what I was told, there ought to be plenty."

We searched the house clear down to the basement, where he stood with his face slack.

"Christ!" he breathed. "The annex to the Metropolitan Museum!"

The basement ran the length and breadth of the house and was twice as high as an average room, and the whole glittering place was crammed with paintings in rich, heavy frames, statuettes, books, manuscripts, goblets and ewers and jewelry made of gold and huge gems, and tapestries in brilliant color . . . and everything was as bright and sparkling and new as the day it was made, which was almost true of a lot of it.

"The dame was loaded and she was an art collector, that's all," Lou said. "You can't sell me that screwy story of yours. She was a collector and she knew where to find things."

"She certainly did," I agreed.

"What did you do with her?"

"I told you. I shot her through the arm before she could shoot me and I sent her into the future."

He took me by the front of the jacket. "You killed her, Mark. You wanted all this stuff for yourself, so you knocked her off and got rid of her body somehow."

"Why don't you go back to acting, where you belong, Lou, and leave sleuthing to people who know how?" I asked, too worn to pull his hands loose. "Would I kill her and call you up to get right over here? Wouldn't I have sneaked these things out first? Or more likely I'd have sneaked them out, hidden them and nobody—including you—would know I'd ever been here. Come

"That's easy. You lost your on, use your head." nerve."

"I'm not even losing my patience."

HE pushed me away savagely. "If you killed her for this stuff or because of that crazy yarn you gave me, I'm a cop and you're no friend. You're just a plain killer I happened to have known once, and I'll make sure you fry."

"You always did have a taste for that kind of dialogue. Go ahead and wrap me up in an air-

tight case, have them throw the book at me, send me up the river, put me in the hot squat. But you'll have to do the proving, not me."

He headed for the stairs. "I will. And don't try to make a break or I'll plug you as if I never saw you before."

He put in a call at the phone upstairs. I didn't give a particular damn who it was he'd called. I was too relieved that I hadn't killed May Roberts; destroying anything that beautiful, however evil, would have stayed with me the rest of my life. There was another reason for my relief—if I'd killed her and left the evidence for Lou to find, he'd never help me. No, that's not quite so; he'd probably have tried to get me to plead insanity on the basis of my unbelievable explanation.

But most of all, I couldn't get rid of the look on her face when I'd shot her through the arm, the arm that was so wonderful to look at and that had held a murderous little gun to greet me with.

She was in the future now. She wouldn't be executed by them; they regarded crime as an illness, and they'd treat her with their marvelously advanced therapy and she'd become a useful, contented citizen, living out her existence in an era that had given

me more happiness than I'd ever had.

I sat and tried to stupefy myself with brandy that should long ago have dried to brick-hardness, while Lou Pape stood at the door with his hand near his holster and glared at me. He didn't take his eyes off me until somebody named Prof. Jeremiah Aaronson came in and was introduced briefly and flatly to me. Then Lou took him upstairs.

It was minutes before I realized what they were going to do. I ran up after them.

I was just in time to see Aaronson carefully take the housing off the hooded motors, and leap back suddenly from the fury of lightning sparks.

THE whole machine fused while we watched helplessly—motors, switches, panel and mesh cage. They flashed blindingly and blew apart and melted together in a charred and molten pile.

"Rigged," Aaronson said in the tone of a bitter curse. "Set to short if it was tampered with. I wouldn't be surprised if there were incendiaries placed at strategic spots. Nothing else could have made a mess like this."

He finally glanced down at his hand and saw it was scorched. He hissed with the realization of pain, blew on the burn, shook it in the air to cool it, and pulled

a handkerchief out of his back pocket by reaching all the way around the rear for it with his left hand.

Lou looked helplessly at the heap of cooling slag. "Can you make any sense of it, Prof?" he asked.

"Can you?" Aaronson retorted. "Melt down a microtome or any other piece of machinery you're unfamiliar with, and see if you can identify it when it looks like this."

He went out, wrapping his hand in the handkerchief.

Lou kicked glumly at a piece of twisted tubing. "Aaronson is a top physicist, Mark. I was hoping he'd make enough out of the machine to—ah, hell, I wanted to believe you! I couldn't. I still can't. Now we'll have to dig through the house to find her body."

"You won't find it or the secret of the machine," I answered miserably. "I told you they said the secret would be lost. This is how. Now I'll never be able to visit the future again. I'll never see them or May Roberts. They'll straighten her out, get rid of her hate and vindictiveness, and it won't do me a damned bit of good because the machine is gone and she's generations ahead of me."

He turned to me puzzledly. "You're not afraid to have us

dig for her body, Mark?"

"Tear the place apart if you want."

"We'll have to," he said. "I'm calling Homicide."

"Call in the Marines. Call in anybody you like."

"You'll have to stay in my custody until we're through."

I shrugged. "As long as you leave me alone while you're doing your digging, I don't give a hang if I'm under arrest for suspicion of murder. I've got to do some straightening out. I wish the people in the future could take on the job—they could do it faster and better than I can—but some nice, peaceful quiet would help."

HE didn't touch me or say a word to me as we waited for the squad to arrive. I sat in the chair and shut out first him and then the men with their sounding hammers and crowbars and all the rest.

She'd been ruthless and callous, and she'd murdered old people with no more pity than a wolf among a herd of helpless sheep.

But Blundell and Carr had told me that she was as much a victim as the oldsters who'd died of starvation with the riches she'd given them still untouched, on deposit in the banks or stuffed into hiding places or pinned to

their shabby clothes. She needed treatment for the illness her father had inflicted on her. But even he, they'd said, had been suffering from a severe emotional disturbance and proper care could have made a great and honored scientist out of him.

They'd told me the truth and made me hate her, and they'd told me their viewpoint and made that hatred impossible.

I was here, in the present, without her. The machine was gone. Yearning over something I couldn't change would destroy me. I had no right to destroy myself. Nobody did, they'd told me, and nobody who reconciles himself to the fact that some situations just are impossible to work out ever could.

I'd realized that when the squad packed up and left and Lou Pape came over to where I was sitting.

"You knew we wouldn't find her," he said.

"That's what I kept telling you."

"Where is she?"

"In Port Said, exotic hellhole of the world, where she's dancing in veils for the depraved—"

"Cut out the kidding! Where is she?"

"What's the difference, Lou? She's not here, is she?"

"That doesn't mean she can't be somewhere else, dead."

"She's not dead. You don't have to believe me about anything else, just that."

He hauled me out of the chair and stared hard at my face. "You aren't lying," he said. "I know you well enough to know you're not."

"All right, then."

"But you're a damned fool to think a dish like that would have any part of you. I don't mean you're nothing a woman would go for, but she's more fang than female. You'd have to be richer and better-looking than her, for one thing—"

"Not after my friends get through with her. She'll know a good man when she sees one and I'd be what she wants." I slid my hand over my naked scalp. "With a head of hair, I'd look my real age, which happens to be a year younger than you, if you remember. She'd go for me—they checked our emotional quotients and we'd be a natural together. The only thing was that I was bald. They could have grown hair on my head, which would have taken care of that, and then we'd have gotten together like gin and tonic."

LOU arched his black eyebrows at me. "They really could grow hair on you?"

"Sure. Now you want to know why I didn't let them." I glanced

out the window at the smoky city. "That's why. They couldn't tell me if I'd ever get back to the future. I wasn't taking any chances. As long as there was a possibility that I'd be stranded in my own time, I wasn't going to lose my livelihood. Which reminds me, you have anything else to do here?"

"There'll be a guard stationed around the house and all her holdings and art will be taken over until she comes back—"

"She won't."

"—or is declared legally dead."

"And me?" I broke in.

"We can't hold you without proof of murder."

"Good enough. Then let's get out of here."

"I have to go back on duty," he objected.

"Not any more. I've got over \$15,000 in cash and deposits—enough to finance you and me."

"Enough to kill her for."

"Enough to finance you and me," I repeated doggedly. "I told you I had the money before she sent me into the future—"

"All right, all right," he interrupted. "Let's not go into that again. We couldn't find a body, so you're free. Now what's this about financing the two of us?"

I put my fingers around his arm and steered him out to the street.

"This city has never had a

worse cop than you," I said. "Why? Because you're an actor, not a cop. You're going back to acting, Lou. This money will keep us both going until we get a break."

He gave me the slit-eyed look he'd picked up in line of duty. "That wouldn't be a bribe, would it?"

"Call it a kind of memorial to a lot of poor, innocent old people and a sick, tormented woman."

We walked along in silence out in the clean sunshine. It was our silence; the sleek cars and burly trucks made their noise and the pedestrians added their gabble, but a good Stanislavsky actor like Lou wouldn't notice that. Neither would I, ordinarily, but I was giving him a chance to work his way through this situation.

"I won't hand you a lie, Mark," he said finally. "I never stopped wanting to act. I'll take your deal on two considerations."

"All right, what are they?"

"That whatever I take off you is strictly a loan."

"No argument. What's the other?"

He had an unlit cigarette al-

most to his lips. He held it there while he said: "That any time you come across a case of an old person who died of starvation with \$30,000 stashed away somewhere, you turn fast to the theatrical page and not tell me or even think about it."

"I don't have to agree to that."

HE lowered the cigarette, stopped and turned to me. "You mean it's no deal?"

"Not that," I said. "I mean there won't be any more of those cases. Between knowing that and both of us back acting again, I'm satisfied. You don't have to believe me. Nobody does."

He lit up and blew out a pretty plume, fine and slow and straight, which would have telegraphed like a million in the bank. Then he grinned. "You wouldn't want to bet on that, would you?"

"Not with a friend. I do all my sure-thing betting with bookies."

"Then make it a token bet," he said. "One buck that somebody dies of starvation with a big poke within a year."

I took the bet.

I took the dollar a year later.

—H. L. GOLD

games

By KATHERINE MacLEAN

*It is a tough assignment for a
child to know where a daydream
ends and impossibility begins!*

Illustrated by ASHMAN

RONNY was playing by himself, which meant he was two tribes of Indians having a war.

"Bang," he muttered, firing an imaginary rifle. He decided that it was a time in history before the white people had sold the Indians any guns, and changed the rifle into a bow. "Wizz-thunk," he substituted, mimicking from an Indian film on TV the graphic sound of an arrow striking flesh.

"Oof." He folded down onto the grass, moaning, "Uhhhhooh . . ."

and relaxing into defeat and death.

"Want some chocolate milk, Ronny?" asked his mother's voice from the kitchen.

"No, thanks," he called back, climbing to his feet to be another man. "Wizzthunk, wizzthunk," he added to the flights of arrows as the best archer in the tribe. "Last arrow. Wizzzz," he said, missing one enemy for realism. He addressed another battling brave. "Who has more arrows? They are coming too close. No time—I'll have to use my knife."

He drew the imaginary knife, ducking an arrow as it shot close.

THEN he was the tribal chief standing somewhere else, and he saw that the warriors left alive were outnumbered.

"We must retreat. We cannot leave our tribe without warriors to protect the women."

Ronny decided that the chief was heroically wounded, his voice wavering from weakness. He had been propping himself against a tree to appear unharmed, but now he moved so that his braves could see he was pinned to the trunk by an arrow and could not walk. They cried out.

He said, "Leave me and escape. But remember . . ." No words came, just the feeling of being what he was, a dying old eagle, a chief of warriors, speaking to young warriors who would need advice of seasoned humor and moderation to carry them through their young battles. He had to finish the sentence, tell them something wise.

Ronny tried harder, pulling the feeling around him like a cloak of resignation and pride, leaning indifferently against the tree where the arrow had pinned him, hearing dimly in anticipation the sound of his aged voice conquering weakness to speak wisely of what they needed to be told. They had many battles ahead of

them, and the battles would be against odds, with so many dead already.

They must watch and wait, be flexible and tenacious, determined and persistent—but not too rash, subtle and indirect—not cowardly, and above all be patient with the triumph of the enemy and not maddened into suicidal direct attack.

His stomach hurt with the arrow wound, and his braves waited to hear his words. He had to sum a part of his life's experience in words. Ronny tried harder to build the scene realistically. Then suddenly it was real. He was the man.

He was an old man, guide and adviser in an oblique battle against great odds. He was dying of something and his stomach hurt with a knotted ache, like hunger, and he was thirsty. He had refused to let the young men make the sacrifice of trying to rescue him. He was hostage in the jail and dying, because he would not surrender to the enemy nor cease to fight them. He smiled and said, "Remember to live like other men, but—remember to remember."

And then he was saying things that could not be put into words, complex feelings that were ways of taking bad situations that made them easier to smile at, and then sentences that were not

sentences, but single alphabet letters pushing each other with signs, with a feeling of being connected like two halves of a swing, one side moving up when the other moved down, or like swings or like cogs and pendulums inside a clock, only without the cogs, just with the push.

It wasn't adding or multiplication, and it used letters instead of numbers, but Ronny knew it was some kind of arithmetic.

And he wasn't Ronny.

He was an old man, teaching young men, and the old man did not know about Ronny. He thought sadly how little he would be able to convey to the young men, and he remembered more, trying to sum long memories and much living into a few direct thoughts. And Ronny was the old man and himself, both at once.

IT was too intense. Part of Ronny wanted to escape and be alone, and that part withdrew and wanted to play something. Ronny sat in the grass and played with his toes like a much younger child.

Part of Ronny that was Doctor Revert Purcell sat on the edge of a prison cot, concentrating on secret unpublished equations of biogenic stability which he wanted to pass on to the responsible hands of young re-

searchers in the concealed-research chain. He was using the way of thinking which they had told him was the telepathic sending of ideas to anyone ready to receive. It was odd that he himself could never tell when he was sending. Probably a matter of age. They had started trying to teach him when he was already too old for anything so different.

The water tap, four feet away, was dripping steadily, and it was hard for Purcell to concentrate, so intense was his thirst. He wondered if he could gather strength to walk that far. He was sitting up and that was good, but the struggle to raise himself that far had left him dizzy and trembling. If he tried to stand, the effort would surely interrupt his transmitting of equations and all the data he had not sent yet.

Would the man with the keys who looked in the door twice a day care whether Purcell died with dignity? He was the only audience, and his expression never changed when Purcell asked him to point out to the authorities that he was not being given anything to eat. It was funny to Purcell to find that he wanted the respect of any audience to his dying, even of a man without response who treated him as if he were already a corpse.

Perhaps the man would re-

spond if Purcell said, "I have changed my mind. I will tell."

But if he said that, he would lose his own respect.

At the biochemists' and biophysicists' convention, the reporter had asked him if any of his researches could be applied to warfare.

He had answered with no feeling of danger, knowing that what he did was common practice among research men, sure that it was an unchallengeable right.

"Some of them can, but those I keep to myself."

The reporter remained deadpan. "For instance?"

"Well, I have to choose something that won't reveal how it's done now, but—ah—for example, a way of cheaply mass-producing specific antitoxins against any germ. It sounds harmless if you don't think about it, but actually it would make germ warfare the most deadly and inexpensive weapon yet developed, for it would make it possible to prevent the backspread of contagion into a country's own troops, without much expense. There would be hell to pay if anyone ever let that out." Then he had added, trying to get the reporter to understand enough to change his cynical unimpressed expression, "You understand, germs are cheap—there would be a new plague to spread everytime some

pipsqueak biologist mutated a new germ. It isn't even expensive or difficult, as atom bombs are."

The headline was: "Scientist Refuses to Give Secret of Weapon to Government."

GOVERNMENT men came and asked him if this was correct, and on having it confirmed pointed out that he had an obligation. The research foundations where he had worked were subsidized by government money. He had been deferred from military service during his early years of study and work so he could become a scientist, instead of having to fight or die on the battlefield.

"This might be so," he had said. "I am making an attempt to serve mankind by doing as much good and as little damage as possible. If you don't mind, I'd rather use my own judgment about what constitutes service."

The statement seemed too blunt the minute he had said it, and he recognized that it had implications that his judgment was superior to that of the government. It probably was the most antagonizing thing that could have been said, but he could see no other possible statement, for it represented precisely what he thought.

There were bigger headlines about that interview, and when



he stepped outside his building for lunch the next day, several small gangs of patriots arrived with the proclaimed purpose of persuading him to tell. They fought each other for the privilege.

The police had rescued him after he had lost several front teeth and had one eye badly gouged. They then left him to the care of the prison doctor in protective custody. Two days later, after having been questioned several times on his attitude toward revealing the parts of his research he had kept secret, he was transferred to a place that looked like a military jail, and left alone. He was not told what his status was.

When someone came and asked him questions about his attitude, Purcell felt quite sure that what they were doing to him was illegal. He stated that he was going on a hunger strike until he was allowed to have visitors and see a lawyer.

The next time the dinner hour arrived, they gave him nothing to eat. There had been no food in the cell since, and that was probably two weeks ago. He was not sure just how long, for during part of the second week his memory had become garbled. He dimly remembered something that might have been delirium, which could have lasted more than one day.

Perhaps the military who wanted the antitoxins for germ warfare were waiting quietly for him either to talk or die.

RONNY got up from the grass and went into the kitchen, stumbling in his walk like a beginning toddler.

"Choc-mil?" he said to his mother.

She poured him some and teased gently, "What's the matter, Ronny—back to baby-talk?"

He looked at her with big solemn eyes and drank slowly, not answering.

In the cell somewhere distant, Dr. Purcell, famous biochemist, began waveringly trying to rise to his feet, unable to remember hunger as anything separate from him that could ever be ended, but weakly wanting a glass of water. Ronny could not feed him with the chocolate milk. Even though this was another himself, the body that was drinking was not the one that was thirsty.

He wandered out into the back yard again, carrying the glass.

"Bang," he said deceptively, pointing with his hand in case his mother was looking. "Bang." Everything had to seem usual; he was sure of that. This was too big a thing, and too private, to tell a grownup.

On the way back from the sink, Dr. Purcell slipped and fell and

hit his head against the edge of the iron cot. Ronny felt the edge gashing through skin and into bone, and then a relaxing blankness inside his head, like falling asleep suddenly when they are lulling you a fairy story while you want to stay awake to find out what happened next.

"Bang," said Ronny vaguely, pointing at a tree. "Bang." He was ashamed because he had fallen down in the cell and hurt his head and become just Ronny again before he had finished mending out his equations. He tried to make believe he was alive again, but it didn't work.

You could never make-believe anything to a real good finish. They never ended neatly—there was always something unfinished, and something that would go right on after the end.

It would have been nice if the jailers had come in and he had been able to say something noble to them before dying, to show that he was brave.

"Bang," he said randomly, pointing his finger at his head, and then jerked his hand away as if it had burned him. He had become the wrong person that time. The feel of a bullet jolting the side of his head was startling and unpleasant, even if not real, and the flash of someone's vindictive anger and self-pity while pulling a trigger . . . *My wife*

will be sorry she ever . . . He didn't like that kind of make-believe. It felt unsafe to do it without making up a story first.

Ronny decided to be Indian braves again. They weren't very real, and when they were, they had simple straightforward emotions about courage and skill and pride and friendship that he would like.

A MAN was leaning his arms on the fence, watching him. "Nice day." *What's the matter, kid, are you an esper?*

"Hul-lo," Ronny stood on one foot and watched him. *Just making believe. I only want to play. They make it too serious, having all these troubles.*

"Good countryside." The man gestured at the back yards, all opened in together with tangled bushes here and there to crouch behind, when other kids were there to play hide and seek, and with trees to climb. *It can be the Universe if you pick and choose who to be, and don't let wrong choices make you shut off from it. You can make yourself learn from this if you are strong enough. Who have you been?*

Ronny stood on the other foot and scratched the back of his leg with his toes. He didn't want to remember. He always forgot right away, but this grownup was confident and young and

strong-looking, and meant something when he talked, not like most grownups.

"I was playing Indian." *I was an old chief, captured by enemies, trying to pass on to other warriors the wisdom of my life before I died. He made believe he was the chief a little to show the young man what he was talking about.*

"Purcell!" The man drew in his breath between his teeth, and his face paled. He pulled back from reaching Ronny with his feelings, like holding his breath in. "Good game." *You can learn from him. Don't leave him shut off, I beg you. You can let him influence you without being pulled off your own course. He was a good man. You were honored, and I envy the man you will be if you contacted him on resonant similarities.*

The grownup looked frightened. *But you are too young. You'll block him out and lose him. Kids have to grow and learn at their own speed.*

Then he looked less afraid, but uncertain, and his thoughts struggled against each other. *Their own speed. But there should be someone alive with Purcell's pattern and memories. We loved him. Kids should grow at their own speed, but . . . How strong are you, Ronny? Can you move ahead of the normal growth pat-*

tern?

Grownups always want you to do something. Ronny stared back, clenching his hands and moving his feet uneasily.

The thoughts were open to him. *Do you want to be the old chief again, Ronny? Be him often, so you can learn to know what he knew? (And feel as he felt. It would be a stiff dose for a kid.) It will be rich and exciting, full of memories and skills. (But hard to chew. I'm doing this for Purcell, Ronny, not for you. You have to make up your own mind.)*

"That was a good game. Are you going to play it any more?"

HIS mother would not like it. She would feel the difference in him, as much as if he had read one of the books she kept away from him, books that were supposed to be for adults only. The difference would hurt her. He was being bad, like eating between meals. But to know what grownups knew. . .

He tightened his fists and looked down at the grass. "I'll play it some more."

The young man smiled, still pale and holding half his feelings back behind a dam. *Then mesh with me a moment. Let me in.*

He was in with the thought, feeling Ronny's confused consent, reassuring him by not thinking or looking around inside while

ending out a single call, *Purcell, Doc, that found the combination key to Ronny's guarded yesterdays and last nights and ten minutes agos. Ronny, I'll set that door, Purcell's memories, open for you. You can't close it, but feel like this about it—and he planted in a strong set, questioning, cool, open, a feeling of absorbing without words . . . it will give information when you need it, like a dictionary.*

The grownup straightened away from the fence, preparing to walk off. Behind a dam pressed grief and anger for the death of the man he called Purcell.

"And any time you want to be the old chief, at any age he lived, just make believe you are him."

Grief and anger pressed more strongly against the dam, and the man turned and left rapidly, letting his thoughts flicker and scatter through private memories that Ronny did not share, that no one shared, breaking thought contact with everyone so that the

man could be alone in his own mind to have his feelings in private.

RONNY picked up the empty glass that had held his chocolate milk from the back steps where he had left it and went inside. As he stepped into the kitchen, he knew what another kitchen had looked like for a five-year-old child who had been Purcell ninety years ago. There had been an iron sink, and a brown-and-green-spotted faucet, and the glass had been heavier and transparent, like real glass.

Ronny reached up and put the colored plastic tumbler down.

"That was a nice young man, dear. What did he say to you?"

Ronny looked up at his mamma, comparing her with the remembered mamma of fifty years ago. He loved the other one, too.

"He tol' me he's glad I play Indian."

—KATHERINE MacLEAN

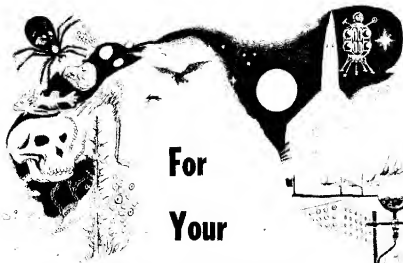
DON'T MISS PAGE 160

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For Your Information

By WILLY LEY

Ancestor of the Dinosaurs

PEOPLE living in, or within easy traveling distance, of New York, Chicago, San Diego or London (England) will, if they are so inclined, be able to see something without trouble for which they would formerly have had to travel half way around





TUATARA

the world and possibly without success.

For the first time in many decades, the New Zealand government has permitted the export for exhibition of four Tuataras, (*Hatterias* or *Sphenodons*; in short, *rhynchocephalia*).

What do they look like? Well, like lizards, more or less dirty green in color, with an unusually large head and unusually large bright eyes in that head. Adult specimens are about 18 inches long. The ones on exhibit in the zoological gardens of the cities mentioned are young specimens which have not yet attained their full size. But they do have the spiny crest along back and tail which is the reason for the name Tuatara, a Maori word which can be translated as "spine-bearer."

It should be abundantly clear by now, because of the mention of the New Zealand government

and the Maori name of the little creature, that its home is in New Zealand. But no longer New Zealand generally.

Only a few hundred years ago, the Tuatara, it is believed, lived on both the main islands of New Zealand. The Maoris who came there from their original home islands of the Southern Pacific—they call their original home Hawaiki, but it was not the Hawaii of our maps—did not bother the small lizard much. Nor did the white settlers of a hundred and fifty years ago.

But the white settlers brought animals with them—dogs, cats and pigs, all three destructive to life-forms such as the Tuatara. The pigs especially, with their habit of rummaging through underbrush and eating everything that isn't wood or stone, exterminated the Tuatara on the main islands, by eating lizards and eggs alike. All this happened



TUATARA

without the settlers being even aware of what went on, which is the main reason why so much of this article is conjecture.

I INCLINE to the belief that Tuatara, if it had ever been abundant on the South Island, would still be there. There are still large unsettled and virtually unexplored areas on the South Island, as the recent rediscovery of the bird Takahe (*Notornis*) has demonstrated.

At any event, if you want to find the present home of Tuatara on a map, you need a pretty good map. The North and South Islands of New Zealand are separated by Cook Strait. West of Cook Strait, due north of the South Island, there is a smaller island named D'Urville Island, which is still indicated on most maps. Due north of D'Urville Island there is a small rocky islet called Stephen Island, rarely seen

on any map. But it is Tuatara's home, or rather one of them, for the little saurian also occurs on a few other rocky islands along the New Zealand coast, all strictly protected.

When at home, Tuatara, slow-moving and cold-loving, eats insects, small crustaceans and other lizards, provided they are small enough. In captivity the diet is usually earthworms, but some have taken fish. The fact that they do eat fish, even though rarely, may explain why the Tuataras, very long ago, decided to set up community housekeeping with birds,—“dovey petrels,” to be precise. These marine birds nest in burrows which they dig, but the Tuataras move in on them. Whether the Tuataras elaborated upon the burrows or the petrels obligingly did it for them (as is generally assumed) is not completely known. But there is a double nest at the bot-

tom; the petrels occupy the dug-out to the left and the Tuataras the one to the right of the entrance.

It was comparatively easy to tell that Tuatara (the scientific names, as has been mentioned, are *Hatteria* or *Sphenodon*) is very rare. There was no problem in reporting where and how they live. But when it comes to the question of why zoologists and paleontologists grow dreamy-eyed at the very mention of the name, I don't have a one-sentence answer.

LET me try to explain it chronologically. Tuatara became known to science about 1830. An explorer by the name of Dieffenbach reported on its existence in a German journal. The main reason why his report is still remembered is that he gave the name *Ngarara* as the Maori name; all others reported the native name as Tuatara, Tuatera, Ruatara, or Tuatete—obviously the same word with slightly differing pronunciations.

Four years before Dieffenbach, a British scientist, Edward Gray, had published a *Note on a Peculiar Structure in the Head of an Agama*.

Of course, Tuatara is not an Agama lizard; but the report on the strange organ in its head caused some comment, and an

anatomist by the name of Günther went to work, delicately and diligently. Finally he could announce that the "structure" itself was not so peculiar, only its location on top of the head.

It was a third eye!

This was enough to give paleontologists vivid professional dreams. Once upon a time, during the Triassic period, some 175 million years ago, three-eyed reptiles were no rarity. But few of them had survived even to the end of the Triassic Period.

Here was one with that feature, still alive.

Apparently the third eye had somewhat reduced its size and activity in the course of time. It is smaller than the other two and is protected by a large transparent scale which is "set" in a circle of small opaque scales. But it is a complete eye in structure. Its connecting optical nerve is in working order and the whole is sensitive at least to light and dark. (Only the large black seaweed-eating iguana of the Galapagos Islands also has a still sensitive third eye, but it is far less well-preserved than that of *Hatteria*.)

The third or "pineal" eye alone proved that Tuatara was old. How old was established by careful, millimeter by millimeter examination of each of its features. Tuatara turned out to be the last

surviving member of a group of reptiles which bear the scientific label of *rynchocephalians* ("beak-heads"). The group was going strong during the Triassic Period. During the following period, the Jurassic, they spread considerably, but became less numerous at the same time.

One of these Jurassic *rynchocephalians* of 145 million years ago, *Homoesaurus*, looked and was so much like *Tuatara* that it would be hard to tell the two apart if both were still alive. The remains of *Homoesaurus* have been found in England and in Bavaria, but representatives of that type had reached Malaya and New Guinea at just about that time.

There was then a land bridge from New Guinea to New Zealand's North Island via New Caledonia. This is how *Tuatara* got to New Zealand. Some time afterward, that land bridge broke up into widely separated islands. *Tuatara* was in a place where it was safe, with nothing to bother it, until the settlers introduced pigs.

Occasionally you can read in a popular book or article that *Tuatara* is a surviving small dinosaur.

That is not so. The dinosaurs came *later*.

Tuatara is one of the ancestors of the dinosaurs.

ROUGHLY three times every month I receive a letter in which I am informed that all space travel men lack imagination. Just because they have discovered that a rocket is the only known means for accelerating and decelerating in the vacuum of space, they want to use rockets for everything. And because they can't imagine anything else any more but liquid fuel rockets, they build rocket ships consisting of three stages, the two lower steps exclusively designed to boost the top stage up to the desired speed. Of course, the step below the third has to be much heavier and larger, and the bottom step, which has to lift all the others off the ground, must be the biggest and clumsiest of them all.

But, the reasoning runs, we only have to get the top stage up to proper speed. There is no need for the lower stages to develop a lot of speed, especially since they are supposed to fall back, anyway. Why not use a catapultlike or gunlike device to put some initial speed behind the top stage? The whole job would be much easier and it probably would take less fuel, too.

It almost sounds convincing. Or, rather, it may sound convincing to those who have never tackled the job.

Let's look at an actual example. There was that two-stage shot which carried to 250 miles. The upper stage was a WAC Corporal rocket. The lower stage was a V-2 rocket, which provided the upper stage with a velocity of almost precisely one mile per second at an altitude of 20 miles.

If we want to send a WAC Corporal to 250 miles without a lower stage, we then have to supply one mile per second by means of a catapult or a gun. In fact, we may have to supply a little more than one mile per second, because the catapult obviously would not be 20 miles tall and would therefore release the WAC Corporal at a lower altitude, where the air is denser and offers more resistance. The "muzzle velocity" would have to be 7000 feet per second.

The acceleration the rocket would receive in the catapult is given by the formula

$$a = \frac{v^2}{2s}$$

where a is the acceleration, s is the length of the catapult or the gun and v is the velocity at the end of the catapult—those 7000 feet per second, squared.

Just try it a few times with various sets of figures and you'll be convinced that it is not lack of imagination that makes the space travel scientists stick to multiple stages. Even if you aim

for as low a "muzzle velocity" as 2500 ft./sec., you'll find that you either need a catapult of impossible length or else that the rocket would have to sustain accelerations as high as several hundred g . If you tried the latter, you would require a very massive rocket—let's not even mention pilot and passengers—so that it emerges in one piece and in workable condition. Unfortunately, it would then also have a very poor mass-ratio.

Even with a mile-long shaft—one drilled, say, into the top of a mountain — the accelerations would still be too high for human occupants, in spite of the fact that humans can stand much higher accelerations than was believed possible as recently as eight years ago. And a tube one mile long, whether it is a vertical shaft in a mountain or a near-vertical structure up a steep mountain slope, will cost large sums of money.

What you really need, though, is an acceleration path 20 or 30 miles long; more in some cases. And the cheapest way to accomplish that is by means of lower stages.

—WILLY LEY

ANY QUESTIONS?

My son suggested that you might be able to answer my ques-

tion: "Why is there no frost on cloudy nights?" I have known this fact for years, but no one seems to be able to tell me why.

Mrs. Mary Coulson

RR 2, Box 65

Silver Lake, Indiana

The statement that there is no frost on cloudy night is generally correct; in fact, there is a proverb which says "clear Moon, frost soon," indicating the same observation. The explanation is mostly provided by the fact that the air near the ground is mostly heated by the ground. In other words, the Sun does not heat the bottom layers of the air to any appreciable extent directly. It heats the ground, which passes the heat on-by re-radiation. If, after a clear day, the night is clear, too, the heat is radiated into space. But if a cloud blanket forms at sunset, it acts like a real blanket, trapping the heat between ground and cloud layer.

There is one condition where you may have frost in spite of an overcast sky. This happens if the weather has been quite cold—around 15° Fahrenheit, for some time; usually the sky is clear, or almost so, in such weather. Then, if a warm and moist air mass moves in, it may not displace the cold air mass, but ride on top of it. Where the

moist warm air touches the cold air, the moisture will condense, forming a cloud blanket which keeps the Sun's rays out. The result is a series of cold days with an overcast sky.

Why does water expand when it is cooled below its freezing point?

Stephen Obrecht

2109 Glenway Drive S.E.

Cedar Rapids, Iowa

Water reaches its greatest density not at its freezing point, but somewhat above the freezing point, at 4° centigrade. It freezes at 0° centigrade. Above and below 4° centigrade, it has a lesser density than at that critical temperature.

This is of great biological importance. If water below zero centigrade—ice—were heavier than liquid water, all ice that forms would sink to the bottom of rivers and lakes. During a long and severe winter, the lakes and most rivers would be solidly filled with ice from the bottom up, presumably destroying many life-forms in the process. Since the ice floats on top, it forms an insulating layer, keeping the water below liquid so that aquatic life-forms can survive.

Some time ago I heard that if a person stays in a completely

darkened room long enough to allow his irises to open completely, he'll be able to see by so-called "black" or ultraviolet light, but that every object he sees will seem to be displaced a certain angular distance from its actual position. Can you shed any light (black or otherwise) on this?

Bert Avera

Box 345

Fairhope, Alabama

It is not true that everybody can see ultra-violet after he has been in the dark long enough for his eyes to attain maximum sensitivity. It is true that *some* people can see ultra-violet and they don't even have to stay in a dark room—the main point is here that the intensity of ordinarily visible light must be low enough so that the u-v is not "drowned out" completely. The ability to see u-v seems to be restricted to light-eyed people who are still fairly young; the ability seems to be lost with age. I don't know whether an age limit has been actually established. As a rule of thumb, a person over 30 years of age is too old for that.

But the idea of an angular displacement is wrong. Everybody can "see" ultra-violet via his camera. If there were such a displacement, all pictures taken in light with much u-v in

it (sunlight, for example) would be fuzzy or have double outlines. I admit having seen photographs with fuzzy or double outlines, but the u-v had nothing to do with that.

I have read that the Northern Lights are caused by Sun spots. If so, why are they seen only in the north? Would they be seen on other planets?

Mildred Moore

116 William Street

Hightstown, N. J.

The Northern Lights are caused by solar activity (Sun spots), but they are not restricted to the north. They appear in the regions of the magnetic poles, which are reasonably close to the geographical poles. Scientific terminology is *aurora borealis* for those near the geographical North Pole and *aurora australis* for those near the geographical South Pole.

The second portion of the question is especially interesting; it would be nice if we could be sure. To the best of my knowledge, no aurora has ever been seen in the Martian atmosphere, but quite a number of astronomers believe that aurorae may have been seen in the Venusian atmosphere. Venus, going around the Sun inside the orbit of Earth, shows decided phases like the Moon.

It happens that far more of the sickle points is visible than can be accounted for geometrically. Also, the outline of the sickle is sometimes "bumpy." These irregularities do not necessarily have to be caused by aurorae, but they may be.

In the July 1951 issue of the American Scientist, George Gamow writes: "Recently this theoretical conclusion (Weizsäcker, Kuiper et. al.) found confirmation in the actual discovery of planetary systems near two close stars. Please explain.

*Joe Low
620 Holland
Lakewood, Colo.*

When you ask me to explain Dr. Gamow's statement, I take it that you are looking for confirmation of his assertion that planets of other stars are known. They are. To phrase it as carefully as possible, one has to say that star systems comparatively near in space to our own sun are known to have non-luminous companions of planetary mass. They have not been seen so far—their existence is known because they influence the movement of their suns, which we can measure.

The suns in question are bi-

nararies or double stars, two suns moving around their common center of gravity. Once this motion has been established, we are able to predict the relative positions accurately. But by careful study of photographs taken over a number of years, it turned out that the positions did not check precisely. There had to be at least one more body, not registering on the plates, to account for this.

Several such suspicious cases had been under investigation for some years when K. Aa. Strand of Sproul Observatory (Swarthmore College) announced in 1942 that the double star 61 in Cygnus had a companion of planetary mass, 16 times as massive as Jupiter and moving around its sun once in 4.9 years.

Only a few months later, the Leander McCormick Observatory of the University of Virginia announced a similar dark companion of the system 70 in Ophiuchus. The period of this object is 17 years and its mass 10.5 times that of Jupiter.

Naturally, only very large dark companions can be found by this method. But it is logical to expect smaller planets where there are large ones.

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For Details and Rules See Page 129

STUDENT BODY

By F. L. WALLACE

*When a really infallible scientific bureau
makes a drastically serious error, the data
must be wrong . . . but wrong in what way?*

Illustrated by ASHMAN

THE first morning that they were fully committed to the planet, the executive officer stepped out of the ship. It was not quite dawn. Executive Hafner squinted in the early light; his eyes opened wider, and he promptly went back inside. Three minutes later, he reappeared with the biologist in tow.

"Last night you said there was nothing dangerous," said the executive. "Do you still think it's so?"

Daño Marin stared. "I do." What his voice lacked in con-

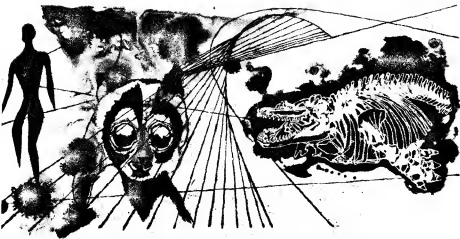
viction, it made up in embarrassment. He laughed uncertainly.

"This is no laughing matter. I'll talk to you later."

The biologist stood by the ship and watched as the executive walked to the row of sleeping colonists.

"Mrs. Athyl," said the executive as he stopped beside the sleeping figure.

She yawned, rubbed her eyes, rolled over, and stood up. The covering that should have been there, however, wasn't. Neither was the garment she had on when



she had gone to sleep. She assumed the conventional position of a woman who is astonished to find herself unclad without her knowledge or consent.

"It's all right, Mrs. Athyl. I'm not a voyeur myself. Still, I think you should get some clothing on." Most of the colonists were awake now. Executive Hafner turned to them. "If you haven't any suitable clothing in the ship, the commissary will issue you some. Explanations will be given later."

The colonists scattered. There was no compulsive modesty among them, for it couldn't have survived a year and a half in crowded spaceships. Nevertheless, it was a shock to awaken with no clothing on and not know who or what had removed

it during the night. It was surprise more than anything else that disconcerted them.

On his way back to the spaceship, Executive Hafner paused. "Any ideas about it?"

Dano Marin shrugged. "How could I have? The planet is as new to me as it is to you."

"Sure. But you're the biologist."

As the only scientist in a crew of rough-and-ready colonists and builders, Marin was going to be called on to answer a lot of questions that weren't in his field.

"Nocturnal insects, most likely," he suggested. That was pretty weak, though he knew that in ancient times locusts had stripped fields in a matter of hours. Could they do the same with the clothing of humans and not awaken

them? "I'll look into the matter. As soon as I find anything, I'll let you know."

"Good." Hafner nodded and went into the spaceship.

DANO MARIN walked to the grove in which the colonists had been sleeping. It had been a mistake to let them bed down there, but at the time the request had been made, there had seemed no reason not to grant it. After eighteen months in crowded ships everyone naturally wanted fresh air and the rustle of leaves overhead.

Marin looked out through the grove. It was empty now; the colonists, both men and women, had disappeared inside the ship, dressing, probably.

The trees were not tall and the leaves were dark bottle-green. Occasional huge white flowers caught sunlight that made them seem larger than they were. It wasn't Earth and therefore the trees couldn't be magnolias. But they reminded Marin of magnolia trees and thereafter he always thought of them as that.

The problem of the missing clothing was ironic. Biological Survey never made a mistake—yet obviously they had. They listed the planet as the most suitable for Man of any so far discovered. Few insects, no dangerous animals, a most equitable

climate. They had named it Glade because that was the word which fitted best. The whole land mass seemed to be one vast and pleasant meadow.

Evidently there were things about the planet that Biological Survey had missed.

Marin dropped to his knees and began to look for clues. If insects had been responsible, there ought to be a few dead ones, crushed, perhaps, as the colonists rolled over in their sleep. There were no insects, either live or dead.

He stood up in disappointment and walked slowly through the grove. It might be the trees. At night they could exude a vapor which was capable of dissolving the material from which the clothing had been made. Far-fetched, but not impossible. He crumbled a leaf in his hand and rubbed it against his sleeve. A pungent smell, but nothing happened. That didn't disprove the theory, of course.

He looked out through the trees at the blue sun. It was bigger than Sol, but farther away. At Glade, it was about equal to the Sun on Earth.

He almost missed the bright eyes that regarded him from the underbrush. Almost, but didn't—the domain of biology begins at the edge of the atmosphere; it includes the brush and the

small creatures that live in it.

He swooped down on it. The creature fled squealing. He ran it down in the grass outside the grove. It collapsed into quaking flesh as he picked it up. He talked to it gently and the terror subsided.

It nibbled contentedly on his jacket as he carried it back to the ship.

EXECUTIVE Hafner stared unhappily into the cage. It was an undistinguished animal,

small and something like an undeveloped rodent. Its fur was sparse and stringy, unglamorous; it would never be an item in the fur export trade.

"Can we exterminate it?" asked Hafner. "Locally, that is."

"Hardly. It's ecologically basic."

The executive looked blank. Dano Marin added the explanation: "You know how Biological Control works. As soon as a planet has been discovered that looks suitable, they send out a



survey ship loaded with equipment. The ship flies low over a good part of the planet and the instruments in the ship record the neural currents of the animals below. The instruments can distinguish the characteristic neural patterns of anything that has a brain, including insects.

"Anyway, they have a pretty good idea of the kinds of animals on the planet and their relative distribution. Naturally, the survey party takes a few specimens. They have to in order to correlate the pattern with the actual animal, otherwise the neural pattern would be merely a meaningless squiggle on a microfilm.

"The survey shows that this animal is one of only four species of mammals on the planet. It is also the most numerous."

Hafner grunted. "So if we kill them off here, others will swarm in from surrounding areas?"

"That's about it. There are probably millions of them on this peninsula. Of course, if you want to put a barrier across the narrow connection to the mainland, you might be able to wipe them out locally."

The executive scowled. A barrier was possible, but it would involve more work than he cared to expend.

"What do they eat?" he asked truculently.

"A little bit of everything,

apparently. Insects, fruits, berries, nuts, succulents, and grain." Dano Marin smiled. "I guess it could be called an omnivore—now that our clothing is handy, it eats that, too."

Hafner didn't smile. "I thought our clothing was supposed to be verminproof."

Marin shrugged. "It is, on twenty-seven planets. On the twenty-eighth, we meet up with a little fella that has better digestive fluids, that's all."

Hafner looked pained. "Are they likely to bother the crops we plant?"

"Offhand, I would say they aren't. But then I would have said the same about our clothing."

Hafner made up his mind. "All right. You worry about the crops. Find some way to keep them out of the fields. Meanwhile, everyone sleeps in the ship until we can build dormitories."

Individual dwelling units would have been more appropriate in the colony at this stage, thought Marin. But it wasn't for him to decide. The executive was a man who regarded a schedule as something to be exceeded.

"The omnivore—" began Marin.

Hafner nodded impatiently. "Work on it," he said, and walked away.

The biologist sighed. The omnivore really was a queer little

creature, but it was by no means the most important thing on Glade. For instance, why were there so few species of land animals on the planet? No reptiles, numerous birds, and only four kinds of mammals.

Every comparable planet teemed with a wild variety of life. Glade, in spite of seemingly ideal conditions, hadn't developed. Why?

He had asked Biological Controls for this assignment because it had seemed an interesting problem. Now, apparently, he was being pressed into service as an exterminator.

He reached in the cage and picked up the omnivore. Mammals on Glade were not unexpected. Parallel development took care of that. Given roughly the same kind of environment, similar animals would usually evolve.

In the Late Carboniferous forest on Earth, there had been creatures like the omnivore, the primitive mammal from which all others had evolved. On Glade, that kind of evolution just hadn't taken place. What had kept nature from exploiting its evolutionary potentialities? There was the real problem, not how to wipe them out.

Marin stuck a needle in the omnivore. It squealed and then relaxed. He drew out the blood

and set it back in the cage. He could learn a lot about the animal from trying to kill it.

THE quartermaster was shouting, though his normal voice carried quite well.

"How do you know it's mice?" the biologist asked him.

"Look," said the quartermaster angrily.

Marin looked. The evidence did indicate mice.

Before he could speak, the quartermaster snapped, "Don't tell me they're only micelike creatures. I know that. The question is: how can I get rid of them?"

"Have you tried poison?"

"Tell me what poison to use and I'll use it."

It wasn't the easiest question to answer. What was poisonous to an animal he had never seen and knew nothing about? According to Biological Survey, the animal didn't exist.

It was unexpectedly serious. The colony could live off the land, and was expected to. But another group of colonists was due in three years. The colony was supposed to accumulate a surplus of food to feed the increased numbers. If they couldn't store the food they grew any better than the concentrates, that surplus was going to be scanty.

Marin went over the ware-

house thoroughly. It was the usual early construction on a colonial world. Not esthetic, it was sturdy enough. Fused dirt floor, reinforced foot-thick walls, a ceiling slab of the same. The whole was bound together with a molecular cement that made it practically airtight. It had no windows; there were two doors. Certainly it should keep out rodents.

A closer examination revealed an unexpected flaw. The floor was as hard as glass; no animal could gnaw through it, but, like glass, it was also brittle. The crew that had built the warehouse had evidently been in such a hurry to get back to Earth that they hadn't been as careful as they should have been, for here and there the floor was thin. Somewhere under the heavy equipment piled on it, the floor had cracked. There a burrowing animal had means of entry.

Short of building another warehouse, it was too late to do anything about that. Micelike animals were inside and had to be controlled where they were.

The biologist straightened up. "Catch me a few of them alive and I'll see what I can do."

IN the morning, a dozen live specimens were delivered to the lab. They actually did resemble mice.

Their reactions were puzzling. No two of them were affected by the same poison. A compound that stiffened one in a matter of minutes left the others hale and hearty, and the poison he had developed to control the omnivores was completely ineffective.

The depredations in the warehouse went on. Black mice, white ones, gray and brown, short-tailed and long-eared, or the reverse, they continued to eat the concentrates and spoil what they didn't eat.

Marin conferred with the executive, outlined the problem as he saw it and his ideas on what could be done to combat the nuisance.

"But we can't build another warehouse," argued Hafner. "Not until the atomic generator is set up, at any rate. And then we'll have other uses for the power." The executive rested his head in his hands. "I like the other solution better. Build one and see how it works."

"I was thinking of three," said the biologist.

"One," Hafner insisted. "We can't spare the equipment until we know how it works."

At that he was probably right. They had equipment, as much as three ships could bring. But the more they brought, the more was expected of the colony. The

net effect was that equipment was always in short supply.

Marin took the authorization to the engineer. On the way, he privately revised his specifications upward. If he couldn't get as many as he wanted, he might as well get a better one.

In two days, the machine was ready.

It was delivered in a small crate to the warehouse. The crate was opened and the machine leaped out and stood there, poised.

"A cat!" exclaimed the quartermaster, pleased. He stretched out his hand toward the black fuzzy robot.

"If you've touched anything a mouse may have, get your hand away," warned the biologist. "It reacts to smell as well as sight and sound."

Hastily, the quartermaster withdrew his hand. The robot disappeared silently into the maze of stored material.

In one week, though there were still some mice in the warehouse, they were no longer a danger.

THE executive called Marin in to his office, a small sturdy building located in the center of the settlement. The colony was growing, assuming an aspect of permanency. Hafner sat in his chair and looked out over that growth with satisfaction.

"A good job on the mouse plague," he said.

The biologist nodded. "Not bad, except there shouldn't be any mice here. Biological Survey—"

"Forget it," said the exec. "Everybody makes mistakes, even B. S." He leaned back and looked seriously at the biologist. "I have a job I need done. Just



now I'm short of men., If you have no objections . . ."

The exec was always short of men, would be until the planet was overcrowded, and he would try to find someone to do the work his own men should have done. Dano Marin was not directly responsible to Hafner; he was on loan to the expedition from Biological Controls. Still, it was a good idea to cooperate with the executive. He sighed.

"It's not as bad as you think," said Hafner, interpreting the

sound correctly. He smiled. "We've got the digger together. I want you to run it."

Since it tied right in with his investigations, Dano Martin looked relieved and showed it.

"Except for food, we have to import most of our supplies," Hafner explained. "It's a long haul, and we've got to make use of everything on the planet we can. We need oil. There are going to be a lot of wheels turning, and everyone of them will have to have oil. In time we'll set up a synthetic plant, but if we can locate a productive field now, it's to our advantage."

"You're assuming the geology of Glade is similar to Earth?"

Hafner wagged his hand. "Why not? It's a nicer twin of Earth."

Why not? Because you couldn't always tell from the surface, thought Marin. It *seemed* like Earth, but was it? Here was a good chance to find out the history of Glade.

Hafner stood up. "Any time you're ready, a technician will check you out on the digger. Let me know before you go."

ACTUALLY, the digger wasn't a digger. It didn't move or otherwise displace a gram of dirt or rock. It was a means of looking down below the surface, to any practical depth. A large

crawler, it was big enough for a man to live in without discomfort for a week.

It carried an outsize ultrasonic generator and a device for directing the beam into the planet. That was the sending apparatus. The receiving end began with a large sonic lens which picked up sound beams reflected from any desired depth, converted it into electrical energy and thence into an image which was flashed onto a screen.

At the depth of ten miles, the image was fuzzy, though good enough to distinguish the main features of the strata. At three miles, it was better. It could pick up the sound reflection of a buried coin and convert it into a picture on which the date could be seen.

It was to a geologist as a microscope is to a biologist. Being a biologist, Dano Marin could appreciate the analogy.

He started at the tip of the peninsula and zigzagged across, heading toward the isthmus. Methodically, he covered the territory, sleeping at night in the digger. On the morning of the third day, he discovered oil traces and by that afternoon he had located the main field.

He should probably have turned back at once, but now that he had found oil, he investigated more deliberately. Starting at the

top, he let the image range downward below the top strata.

It was the reverse of what it should have been. In the top few feet, there were plentiful fossil remains, mostly of the four species of mammals. The squirrel-like creature and the far larger grazing animal were the forest dwellers. Of the plains animals, there were only two, in size fitting neatly between the extremes of the forest dwellers.

After the first few feet, which corresponded to approximately twenty thousand years, he found virtually no fossils. Not until he reached a depth which he could correlate to the Late Carboniferous age on Earth did fossils reappear. Then they were of animals appropriate to the epoch. At that depth and below, the history of Glade was quite similar to Earth's.

Puzzled, he checked again in a dozen widely scattered localities. The results were always the same—fossil history for the first twenty thousand years, then none for roughly a hundred million. Beyond that, it was easy to trace the thread of biological development.

In that period of approximately one hundred million years, something unique had happened to Glade. What was it?

On the fifth day his investigations were interrupted by the

sound of the keyed-on radio.

"Marin."

"Yes?" He flipped on the sending switch.

"How soon can you get back?"

He looked at the photo-map. "Three hours. Two if I hurry."

"Make it two. Never mind the oil."

"I've found oil. But what's the matter?"

"You can see it better than I can describe it. We'll discuss it when you get back."

RELUCTANTLY, Marin retracted the instruments into the digger. He turned it around and, with not too much regard for the terrain, let it roar. The treads tossed dirt high in the air. Animals fled squealing from in front of him. If the grove was small enough, he went around it, otherwise he went through and left matchsticks behind.

He skidded the crawler ponderously to halt near the edge of the settlement. The center of activity was the warehouse. Pickups wheeled in and out, transferring supplies to a cleared area outside. He found Hafner in a corner of the warehouse, talking to the engineer.

Hafner turned around when he came up. "Your mice have grown, Marin."

Marin looked down. The robot cat lay on the floor. He knelt

and examined it. The steel skeleton hadn't broken; it had been bent, badly. The tough plastic skin had been torn off and, inside, the delicate mechanism had been chewed into an unrecognizable mass.

Around the cat were rats, twenty or thirty of them, huge by any standards. The cat had fought; the dead animals were headless or disembowled, unbelievably battered. But the robot had been outnumbered.

Biological Survey had said there weren't any rats on Glade. They had also said that about



mice. What was the key to their error?

The biologist stood up. "What are you going to do about it?"

"Build another warehouse, two-foot-thick fused dirt floors, monolithic construction. Transfer all perishables to it."

Marin nodded. That would do

it. It would take time, of course, and power, all they could draw out of the recently set up atomic generator. All other construction would have to be suspended. No wonder Hafner was disturbed.

"Why not build more cats?" Marin suggested.

The executive smiled nastily. "You weren't here when we opened the doors. The warehouse was swarming with rats. How many robot cats would we need—five, fifteen? I don't know. Anyway the engineer tells me we have enough parts to build three more cats. The one lying there can't be salvaged."

It didn't take an engineer to see that, thought Marin.

Hafner continued, "If we need more, we'll have to rob the computer in the spaceship. I refuse to permit that."

Obviously he would. The spaceship was the only link with Earth until the next expedition brought more colonists. No exec in his right mind would permit the ship to be crippled.

But why had Hafner called him back? Merely to keep him informed of the situation?

HAFNER seemed to guess his thoughts. "At night we'll floodlight the supplies we remove from the warehouse. We'll post a guard armed with decharged rifles until we can move the food

into the new warehouse. That'll take about ten days. Meanwhile, our fast crops are ripening. It's my guess the rats will turn to them for food. In order to protect our future food supply, you'll have to activate your animals."

The biologist started. "But it's against regulations to loose any animal on a planet until a complete investigation of the possible ill effects is made."

"That takes ten or twenty years. This is an emergency and I'll be responsible—in writing, if you want."

The biologist was effectively countermanded. Another rabbit-infested Australia or the planet that the snails took over might be in the making, but there was nothing he could do about it.

"I hardly think they'll be of any use against rats this size," he protested.

"You've got hormones. Apply them." The executive turned and began discussing construction with the engineer.

MARIN had the dead rats gathered up and placed in the freezer for further study.

After that, he retired to the laboratory and worked out a course of treatment for the domesticated animals that the colonists had brought with them. He gave them the first injections and watched them carefully until

they were safely through the initial shock phase of growth. As soon as he saw they were going to survive, he bred them.

Next he turned to the rats. Of note was the wide variation in size. Internally, the same thing was true. They had the usual organs, but the proportions of each varied greatly, more than is normal. Nor were their teeth uniform. Some carried huge fangs set in delicate jaws; others had tiny teeth that didn't match the massive bone structure. As a species, they were the most scrambled the biologist had ever encountered.

He turned the microscope on their tissues and tabulated the results. There was less difference here between individual specimens, but it was enough to set him pondering. The reproductive cells were especially baffling.

Late in the day, he felt rather than heard the soundless whoosh of the construction machinery. He looked out of the laboratory and saw smoke rolling upward. As soon as the vegetation was charred, the smoke ceased and heat waves danced into the sky.

They were building on a hill. The little creatures that crept and crawled in the brush attacked in the most vulnerable spot, the food supply. There was no brush, not a blade of grass, on the hill when the colonists finished.

TERRIERS. In the past, they were the hunting dogs of the agricultural era. What they lacked in size they made up in ferocity toward rodents. They had earned their keep originally in granaries and fields, and, for a brief time, they were doing it again on colonial worlds where conditions were repeated.

The dogs the colonists brought had been terriers. They were still as fast, still with the same anti-rodent disposition, but they were no longer small. It had been a difficult job, yet Marin had done it well, for the dogs had lost none of their skill and speed in growing, to the size of a great dane.

The rats moved in on the fields of fast crops. Fast crops were made to order for a colonial world. They could be planted, grown, and harvested in a matter of weeks. After four such plantings, the fertility of the soil was destroyed, but that meant nothing in the early years of a colonial planet, for land was plentiful.

The rat tide grew in the fast crops, and the dogs were loosed on the rats. They ranged through the fields, hunting. A rush, a snap of their jaws, the shake of a head, and the rat was tossed aside, its back broken. The dogs went on to the next.

Until they could not see, the dogs prowled and slaughtered.

At night they came in bloody, most of it not their own, and exhausted. Marin pumped them full of antibiotics, bandaged their wounds, fed them through their veins, and shot them into sleep. In the morning he awakened them with an injection of stimulant and sent them tingling into battle.

It took the rats two days to learn they could not feed during the day. Not so numerous, they came at night. They climbed on the vines and nibbled the fruit. They gnawed growing grain and ravaged vegetables.

The next day the colonists set up lights. The dogs were with them, discouraging the few rats who were still foolish enough to forage while the sun was overhead.

An hour before dusk, Marin called the dogs in and gave them an enforced rest. He brought them out of it after dark and took them to the fields, staggering. The scent of rats revived them; they were as eager as ever, if not quite so fast.

The rats came from the surrounding meadows, not singly, or in twos and threes, as they had before; this time they came together. Squealing and rustling the grass, they moved toward the fields. It was dark, and though he could not see them, Marin could hear them. He ordered the

great lights turned on in the area of the fields.

The rats stopped under the glare, milling around uneasily. The dogs quivered and whined. Marin held them back. The rats resumed their march, and Marin released the dogs.

The dogs charged in to attack, but didn't dare brave the main mass. They picked off the stragglers and forced the rats into a tighter formation. After that the rats were virtually unassailable.

The colonists could have burned the bunched-up rats with the right equipment, but they didn't have it and couldn't get it for years. Even if they'd had it, the use of such equipment would endanger the crops, which they had to save if they could. It was up to the dogs.

The rat formation came to the edge of the fields, and broke. They could face a common enemy and remain united, but in the presence of food, they forgot that unity and scattered—hunger was the great divisor. The dogs leaped joyously in pursuit. They hunted down the starved rodents, one by one, and killed them as they ate.

When daylight came, the rat menace had ended.

The next week the colonists harvested and processed the food for storage and immediately planted another crop.



MARIN sat in the lab and tried to analyze the situation. The colony was moving from crisis to crisis, all of them involving food. In itself, each critical situation was minor, but lumped together they could add up to failure. No matter how he looked at it, they just didn't have the equipment they needed to colonize Glade.

The fault seemed to lie with Biological Survey; they hadn't reported the presence of pests that were endangering the food supply. Regardless of what the

exec thought about them, Survey knew their business. If they said there were no mice or rats on Glade, then there hadn't been any—*when the survey was made.*

The question was: when did they come and how did they get here?

Marin sat and stared at the wall, turning over hypotheses in his mind, discarding them when they failed to make sense.

His gaze shifted from the wall to the cage of the omnivores, the squirrel-size forest creature. The most numerous animal on Glade, it was a commonplace sight to the colonists.

And yet it was a remarkable animal, more than he had realized. Plain, insignificant in appearance, it might be the most important of any animal Man had encountered on the many worlds he had settled on. The longer he watched, the more Marin became convinced of it.

He sat silent, observing the creature, not daring to move. He sat until it was dark and the omnivore resumed its normal activity.

Normal? The word didn't apply on Glade.

The interlude with the omnivore provided him with one answer. He needed another one; he thought he knew what it was, but he had to have more data, additional observations.

He set up his equipment carefully on the fringes of the settlement. There and in no other place existed the information he wanted.

He spent time in the digger, checking his original investigations. It added up to a complete picture.

When he was certain of his facts, he called on Hafner.

The executive was congenial; it was a reflection of the smoothness with which the objectives of the colony were being achieved.

"Sit down," he said affably. "Smoke?"

The biologist sat down and took a cigarette.

"I thought you'd like to know where the mice came from," he began.

Hafner smiled. "They don't bother us any more."

"I've also determined the origin of the rats."

"They're under control. We're doing nicely."

ON the contrary, thought Marin. He searched for the proper beginning.

"Glade has an Earth-type climate and topography," he said. "Has had for the past twenty thousand years. Before that, about a hundred million years ago, it was also like Earth of the comparable period."

He watched the look of polite

interest settle on the executive's face as he stated the obvious. Well, it was obvious, up to a point. The conclusions weren't, though.

"Between a hundred million years and twenty thousand years ago, something happened to Glade," Marin went on. "I don't know the cause; it belongs to cosmic history and we may never find out. Anyway, whatever the cause—fluctuations in the sun, unstable equilibrium of forces within the planet, or perhaps an encounter with an interstellar dust cloud of variable density—the climate on Glade changed.

"It changed with inconceivable violence and it kept on changing. A hundred million years ago, plus or minus, there was carboniferous forest on Glade. Giant reptiles resembling dinosaurs and tiny mammals roamed through it. The first great change wiped out the dinosaurs, as it did on Earth. It didn't wipe out the still more primitive ancestor of the omnivore, because it could adapt to changing conditions.

"Let me give you an idea how the conditions changed. For a few years a given area would be a desert; after that it would turn into a jungle. Still later a glacier would begin to form. And then the cycle would be repeated, with wild variations. All this might

happen—did happen—within a span covered by the lifetime of a single omnivore. This occurred many times. For roughly a hundred million years, it was the norm of existence on Glade. This condition was hardly conducive to the preservation of fossils."

Hafner saw the significance and was concerned. "You mean these climatic fluctuations suddenly stopped, twenty thousand years ago? Are they likely to begin again?"

"I don't know," confessed the biologist. "We can probably determine it if we're interested."

The exec nodded grimly. "We're interested, all right."

Maybe we are, thought the biologist. He said, "The point is that survival was difficult. Birds could and did fly to more suitable climates; quite a few of them survived. Only one species of mammals managed to come through."

"Your facts are not straight," observed Hafner. "There are four species, ranging in size from a squirrel to a water buffalo."

"One species," Marin repeated doggedly. "They're the same. If the food supply for the largest animal increases, some of the smaller so-called species grow up. Conversely, if food becomes scarce in any category, the next generation, which apparently can be produced almost instantly,

switches to a form which does have an adequate food supply."

"The mice," Hafner said slowly.

MARIN finished the thought for him. "The mice weren't here when we got here. They were born of the squirrel-size omnivore."

Hafner nodded. "And the rats?"

"Born of the next larger size. After all, we're environment, too—perhaps the harshest the beasts have yet faced."

Hafner was a practical man, trained to administer a colony. Concepts were not his familiar ground. "Mutations, then? But I thought—"

The biologist smiled. It was thin and cracked at the edges of his mouth. "On Earth, it would be mutation. Here it is merely normal evolutionary adaptation." He shook his head. "I never told you, but omnivores, though they could be mistaken for an animal from Earth, have no genes or chromosomes. Obviously they do have heredity, but how it is passed down, I don't know. However it functions, it responds to external conditions far faster than anything we've ever encountered."

Hafner nodded to himself. "Then we'll never be free from pests." He clasped and unclasped

his hands. "Unless, of course, we rid the planet of all animal life."

"Radioactive dust?" asked the biologist. "They have survived worse."

The exec considered alternatives. "Maybe we should leave the planet and leave it to the animals."

"Too late," said the biologist. "They'll be on Earth, too, and all the planets we've settled on."

Hafner looked at him. The same pictures formed in his mind that Marin had thought of. Three ships had been sent to colonize Glade. One had remained with the colonists, survival insurance in case anything unforeseen happened. Two had gone back to Earth to carry the report that all was well and that more supplies were needed. They had also carried specimens from the planet.

The cages those creatures were kept in were secure. But a smaller species could get out, must already be free, inhabiting, undetected, the cargo spaces of the ships.

There was nothing they could do to intercept those ships. And once they reached Earth, would the biologists suspect? Not for a long time. First a new kind of rat would appear. A mutation could account for that. Without specific knowledge, there would be nothing to connect it with the speci-



mens picked up from Glade.

"We have to stay," said the biologist. "We have to study them and we can do it best here."

He thought of the vast complex of buildings on Earth. There was too much invested to tear them down and make them verminproof. Billions of people could not be moved off the planet while the work was being done.

They were committed to Glade not as a colony, but as a gigantic laboratory. They had gained one planet and lost the equivalent of ten, perhaps more when the destructive properties of the omnivores were finally assessed.

A rasping animal cough interrupted the biologist's thoughts. Hafner jerked his head and

glanced out the window. Lips tight, he grabbed a rifle off the wall and ran out. Marin followed him.

THE EXEC headed toward the fields where the second fast crop was maturing. On top of a knoll, he stopped and knelt. He flipped the dial to *extreme charge*, aimed, and fired. It was high; he missed the animal in the field. A neat strip of smoking brown appeared in the green vegetation.

He aimed more carefully and fired again. The charge screamed out of the muzzle. It struck the animal on the forepaw. The beast leaped high in the air and fell down, dead and broiled.

They stood over the animal Hafner had killed. Except for the lack of markings, it was a good imitation of a tiger. The exec prodded it with his toe.

"We chase the rats out of the warehouse and they go to the fields," he muttered. "We hunt them down in the fields with dogs and they breed tigers."

"Easier than rats," said Marin. "We can shoot tigers." He bent down over the slain dog near which they had surprised the big cat.

The other dog came whining from the far corner of the field to which he had fled in terror. He was a courageous dog, but he could not face the great carnivore. He whimpered and licked the face of his mate.

The biologist picked up the mangled dog and headed toward the laboratory.

"You can't save her," said Hafner morosely. "She's dead."

"But the pups aren't. We'll need them. The rats won't disappear merely because tigers have showed up."

The head drooped limply over his arm and blood seeped into his clothing as Hafner followed him up the hill.

"We've been here three months," the exec said suddenly. "The dogs have been in the fields only two. And yet the tiger was mature. How do you account for

something like that?"

Marin bent under the weight of the dog. Hafner never would understand his bewilderment. As a biologist, all his categories were upset. What did evolution explain? It was a history of organic life on a particular world. Beyond that world, it might not apply.

Even about himself there were many things Man didn't know, dark patches in his knowledge which theory simply had to pass over. About other creatures, his ignorance was sometimes limitless.

Birth was simple; it occurred on countless planets. Meek grazing creatures, fierce carnivores—the most unlikely animals gave birth to their young. It happened all the time. And the young grew up, became mature and mated.

He remembered that evening in the laboratory. It was accidental—what if he had been elsewhere and not witnessed it? They would not know what little they did.

He explained it carefully to Hafner. "If the survival factor is high and there's a great disparity in size, the young need not ever be young. They may be born as fully functioning adults!"

ALTHOUGH not at the rate it had initially set, the colony progressed. The fast crops were slowed down and a more diversi-

fied selection was planted. New buildings were constructed and the supplies that were stored in them were spread out thin, for easy inspection.

The pups survived and within a year shot up to maturity. After proper training, they were released to the fields where they joined the older dogs. The battle against the rats went on; they were held in check, though the damage they caused was considerable.

The original animal, unchanged in form, developed an appetite for electrical insulation. There was no protection except to keep the power on at all times. Even then there were unwelcome interruptions until the short was located and the charred carcass was removed. Vehicles were kept tightly closed or parked only in verminproof buildings. While the plague didn't increase in numbers, it couldn't be eliminated, either.

There was a flurry of tigers, but they were larger animals and were promptly shot down. They prowled at night, so the colonists were assigned to guard the settlement around the clock. Where lights failed to reach, the infra-red 'scope did. As fast as they came, the tigers died. Except for the first one, not a single dog was lost.

The tigers changed, though not in form. Externally, they were

all big and powerful killers. But as the slaughter went on, Marin noticed one astonishing fact—the internal organic structure became progressively more immature.

The last one that was brought to him for examination was the equivalent of a newly born cub. That tiny stomach was suited more for the digestion of milk than meat. How it had furnished energy to drive those great muscles was something of a miracle. But drive it had, for a murderous fifteen minutes before the animal was brought down. No lives were lost, though sick bay was kept busy for a while.

That was the last tiger they shot. After that, the attacks ceased.

The seasons passed and nothing new occurred. A spaceship civilization or even that fragment of it represented by the colony was too much for the creature, which Marin by now had come to think of as the "Omnimal." It had evolved out of a cataclysmic past, but it could not meet the challenge of the harshest environment.

Or so it seemed.

THREE months before the next colonists were due, a new animal was detected. Food was missing from the fields. It was not another tiger: they were carnivorous. Nor rats, for vines were

stripped in a manner that no rodent could manage.

The food was not important. The colony had enough in storage. But if the new animal signaled another plague, it was necessary to know how to meet it. The sooner they knew what the animal was, the better defense they could set up against it.

Dogs were useless. The animal roamed the field they were loose in, and they did not attack nor even seem to know it was there.

The colonists were called upon for guard duty again, but it evaded them. They patrolled for a week and they still did not catch sight of it.

Hafner called them in and rigged up an alarm system in the field most frequented by the animal. It detected that, too, and moved its sphere of operations to a field in which the alarm system had not been installed.

Hafner conferred with the engineer, who devised an alarm that would react to body radiation. It was buried in the original field and the old alarm was moved to another.

Two nights later, just before dawn, the alarm rang.

Marin met Hafner at the edge of the settlement. Both carried rifles. They walked; the noise of any vehicle was likely to frighten the animal. They circled around and approached the field from

the rear. The men in the camp had been alerted. If they needed help, it was ready.

They crept silently through the underbrush. It was feeding in the field, not noisily, yet they could hear it. The dogs hadn't barked.

They inched nearer. The blue sun of Glade came up and shone full on their quarry. The gun dropped in Hafner's hand. He clenched his teeth and raised it again.

Marin put out a restraining arm. "Don't shoot," he whispered.

"I'm the exec here. I say it's dangerous."

"Dangerous," agreed Marin, still in a whisper. "That's why you can't shoot. It's more dangerous than you know."

Hafner hesitated and Marin went on. "The omnimal couldn't compete in the changed environment and so it evolved mice. We stopped the mice and it countered with rats. We turned back the rat and it provided the tiger.

"The tiger was easiest of all for us and so it was apparently stopped for a while. But it didn't really stop. Another animal was being formed, the one you see there. It took the omnimal two years to create it—how, I don't know. A million years were required to evolve it on Earth."

Hafner hadn't lowered the rifle and he showed no signs of doing

so. He looked lovingly into the sights.

"Can't you see?" urged Marin. "We can't destroy the omnimal. It's on Earth now, and on the other planets, down in the storage areas of our big cities, masquerading as rats. And we've never been able to root out even our own terrestrial rats, so how can we exterminate the omnimal?"

"All the more reason to start now." Hafner's voice was flat.

Marin struck the rifle down. "Are their rats better than ours?" he asked wearily. "Will their pests win or ours be stronger? Or will the two make peace, unite and interbreed, make war on us? It's not impossible; the omnimal could do it if interbreeding had a high survival factor.

"Don't you still see? There is a progression. After the tiger, it bred this. If this evolution fails, if we shoot it down, what will it create next? This creature I think we can compete with. *It's the one after this that I do not want to face.*"

IT HEARD them. It raised its head and looked around. Slowly it edged away and backed toward a nearby grove.

The biologist stood up and called softly. The creature scurried to the trees and stopped just in-

side the shadows among them.

The two men laid down their rifles. Together they approached the grove, hands spread open to show they carried no weapons.

It came out to meet them. Naked, it had had no time to learn about clothing. Neither did it have weapons. It plucked a large white flower from the tree and extended this mutely as a sign of peace.

"I wonder what it's like," said Marin. "It seems adult, but can it be, all the way through? What's inside that body?"

"I wonder what's in his head," Hafner said worriedly.

It looked very much like a man.

—F. L. WALLACE

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Secret of the House

By H. H. HOLMES

Illustrated by EMSH

*It's spice that's the variety
of interplanetary life — and
it just drove Kathy nutmeggy!*

OF course no one realized in advance what would be, ounce for ounce, the most valuable return cargo of the Earth-Venus spaceships, even though the answer should have been obvious to anyone with the faintest knowledge of historical patterns.

Rare metals? With the cost of fuel to lift them out of Venus's almost-Earth gravity making

them even costlier than on Earth itself? No, the answer was the obvious but overlooked one: What did Marco Polo bring back from China and Vasco da Gama from India? Why was Columbus seeking a new route to the Indies?

In one word: *spices*.

Man's palate needs occasional rejuvenation. One of the main purposes of exploration, intercontinental or interplanetary, is the

restimulation of jaded taste buds. And in addition to the new spices there were new methods of cooking, such as that wonderful native Venusian quick passing through live steam, which gave the startling effect of sizzling hot crisp rawness; or *balj*, that strange native dish which was a little like a curry and a little like a bouillabaisse, but richer and more subtle than either. There was *sokalj*, or Venusian swampfog, the most delicately delicious meat on three planets—not that anything Martian would ever be considered by the true gourmet.

THIS was the speech that Kathy listened to regularly once a week for the first year of her marriage. For she had married not only a prominent and successful man, she soon realized, but one who had been bitten at a susceptible age by the word *gourmet*.

It was fun while they were courting. It was fun, anyway, for a video network receptionist to be taken to good restaurants by the top interplanetary commentator. It was especially fun to watch him go through the masculine production number of conferring with the headwaiter, sending his compliments (and instructions) to the chef, and exchanging views with the *sommelier*, as Kathy quickly learned

to call the man-with-the-wine. Wine did not ship well interplanetically; acceleration over one *g*, in the term of the cognoscenti, "bruised" it. In this domain, the French still reigned supreme, and stressed their superiority to mask their natural jealousy of the upstart Venusian colonists.

In every American city—with a few exceptions in New Orleans and San Francisco—former "French" restaurants had become "Venusian" and even in Paris *cuisine vénérienne* marked some of the most highly esteemed establishments.

But the entertainment value of a gourmet exhibitionist decreased as courtship progressed logically into marriage, and being wined and dined gave place to the daily problem of feeding the man. Quick freezing had, of course, made the bride's problems simple compared to those of earlier centuries. But George, completely in character, insisted on a high percentage of personally prepared meals—and was shrewd enough to spot any substitute makeshifts via the deep freeze and the electronic oven.

Not even the apartment on the very top level of Manhattan, where you could still see the Hudson, not even the charge accounts at shops she'd never dared enter, not even the wondrous fact that she loved George with an



intensity which she had always considered just an unlikely convention of the women's minimag—none of these could quite reconcile Kathy to life with a man who could down three bowls of your best hand-made oyster stew without interrupting his speech on the glories of authentic *balj à la Venusberg*, who could devour enough of a prime rib roast to throw the whole week's budget out of joint while expatiating on the absurdity of the legend that Earth cooks in general, and the Anglo-Saxons in particular, did at least understand beef.

KATHY toyed with the idea of hiring a cook, not so much to satisfy George as to divert his inevitable reproaches to someone else. But aside from the fact that a cook's salary would turn her charge accounts anemic, Kathy knew that her mother, both her grandmothers, and undoubtedly all four of her great- and all eight of her great-great-grandmothers had fed their men and kept them happy. This was a matter of family pride.

Then came the awful day when George brought José Lermontov home to dinner. Kathy's younger sister was also dining with them that night, and wrinkled her nose after George's face faded from the visiphone.

"These revolting Venus-colonial diplomats," said Linda. "He'll have a swamp-beard and a paunch and a wife and six children at home. Kathy, why doesn't George ever meet anybody newsworthy who's — well, worthy?"

"He's a very fine young man, I hear," Kathy muttered distractedly. "Guerilla leader against the dictatorship, wrote a fine book about its overthrow. What worries me is the paunch—and what I'm going to put into it."

Five minutes after meeting the Venusian, Linda slipped into the kitchen to whisper, "Sister . . . please . . . can I have that in my stocking for Christmas?" But even this pleasing reversal did not divert Kathy from the task of preparing to fill the, as it turned out, non-existent paunch.

Dinner, she thought a little later, was going surprisingly well, especially between José and Linda. But then George, having speared and destroyed the last pork chop, cleared his throat.

"You must make allowances, Lermontov. Mere pork to a man accustomed to *sokalj* . . ."

"Mean swampfog?" José asked politely, with the usual clipped Venusian avoidance of pronouns and articles.

"And," George added commiseratingly, "this so-called 'country gravy'—rather a shock to a man

from a planet where they think, thank God, not in terms of gravies, but of sauces."

"Very good gravy," said José, mopping up the last of his with a slice of Kathy's own bread. "Imagine 'so-called' because first made by those who live in country?"

"Even granting that," George persisted, "can't you picture what just a pinch of *balj*-powder would have done for it? Or perhaps a hint of *tinilj*?"

"Myself," José replied gravely, "prefer one of your Earth herbs—dash of *orégano*, bit of savory. Summer savory, of course."

George gave the matter serious thought. "Possibly. Very possibly. But in either case it demonstrates the pitiful lack of imagination of the average Earth housewife."

It is conceivable that Kathy made too obvious a clatter in stacking and removing the dinner dishes. In any event, Linda followed her hastily into the kitchen.

"Please, Kathy angel, don't explode, not just yet. I know George is asking for it, but he's probably been told already that all Earth-women are shrews and I don't want . . ."

Kathy controlled herself until the one agreeable result of the evening was reached when José asked if he might see Linda home. To her surprise, she went right on

controlling herself even after they had left, because by then she had thought of The Plan.

THE very next morning, The Plan was well under way.

A: Kathy invaded her favorite bookshop and bought every book in stock on Venusian spices and cooking, and even added such pre-Venusian classics of culinary perception as Brillat-Savarin, Escoffier, and M. F. K. Fisher.

B: She enrolled herself for daily lessons at the Uya Rulj School of Venusian Cookery (formerly the Ecole de Cuisine Cordon Bleu).

C: Knowing that George had a luncheon date in Chicago with his sponsor, she visited the restaurant where her husband normally lunched. It was an unobtrusive chop house in the thirties, far down on Manhattan's base-level, and the excellent lunch she enjoyed there confirmed her darkest suspicions.

For two weeks she read her books and took her lessons without trying out what she learned except for lunches by herself. And she did learn things. George's school of thought had its points. For Kathy's cooking, like that of her eight great-great-grandmothers, had been not only Earthly but plain American.

There was a fresh delight in

learning that the Architect of all things had established on this planet a certain inevitable relationship between tomatoes and sweet basil, and had ordained that caraway seeds should fulfill the destiny of red cabbage—even as on another planet He had sown *tinilj* so that the flesh of the swampfog might be even sweeter. And who was to anticipate the masterfully predestined interplanetary blends? The inescapable kinship of garlic and lamb. Kathy had long known, but her eyes opened wide on discovering how a pinch of *balj*-powder completed the trinity.

But these discoveries did not weaken The Plan. And that same Architect smiled upon The Plan by allowing the network's robo-waxer to deposit a minutely over-sufficient flow upon the floor of the corridor in front of George's office. On that wax, George slipped and broke his leg.

George probably never admitted, even to himself, that he enjoyed being bedridden: the visiphone calls, the mini-script couriers from the network, the bedside microphone and cameras. But he did begin to admit that he was enjoying Kathy's cooking.

Where once she might have served steak, she now brought forth *grenadine de boeuf à la vénérienne*. Where once she might have served her asparagus with

melted butter, she now ventured on a hollandaise (with five grains of *balj*-powder replacing the cayenne of ancient recipes). Where once she might have served left-over simply reheated, she now masked them with a sauce which would cause the recumbent George to smack his lips, roll his eyes, and murmur, "*Silj*, of course, and chives . . . and a hint of *tinilj* . . . possibly a whisper of *pnulj*, probably Earth-grown? Yes, I thought so . . . and . . . what is that?"

"Chevil, darling," Kathy would say, and he'd answer, "Of course, of course. I would have had it in a minute. You know, Katherine my dear, you are developing an imagination!"

WHEN it was announced that George's plasticast was to come off that Thursday, Kathy decided it was time for the denouement of The Plan. As she was painstakingly making up her shopping list on Thursday morning, the visiphone rang and it was, miraculously, not the network for George.

"Oh, Kathy!" Linda burbled. "I've got one of those nice let's-see-what-happens dates with *him* tonight and could you possibly ask us both to dinner? Because he likes you and he's really just about almost *there* and if we were . . . you know, all in the family

and everything, I think it might just—"

"José?" Kathy asked, knowing the answer. She grinned and doubled the quantities on the list.

The worst of the preparations for dinner were over when Linda arrived, carrying, to Kathy's surprise, a weekend case. The girl devoted only the necessary minimum of time to admiring George's knitted leg, then dragged her sister into the bedroom.

"Kathy, I've got such a problem. He's known so many women . . . all over two planets and at embassies and maybe even spies. I told you tonight I think he will; only I don't know what lipstick to use, what perfume, anything. I've got to make myself *interesting*; but I don't want to overdo it. So I just brought everything I have. You tell me."

Kathy looked at the array. She thought of her dinner and The Plan and she began giving Linda her advice.

IT was the same cast that had attended the awful dinner which inspired The Plan, but they were different people. José, no longer the visiting colonial, was a gentleman at home among friends; Linda was radiant in the glow of simplicity and a well-scrubbed face; and George was praising the food.

He praised the green peas. He

praised the mashed potatoes. And above all he praised the fried chicken.

"I can't quite analyze it," he kept saying. "There's a touch there I can't quite get. You've brought out the flavor miraculously. It wouldn't," he demanded suspiciously, "be that new powder Koenigsberg claims he found among the natives at the tip of the southern continent? I thought they hadn't shipped any of that in yet."

"They haven't, darling," said Kathy.

"Perhaps the tiniest pinch of *balj* with a little freshly ground celery seed?"

"No."

"Then what in two planets—"

"A woman must have some secrets, George. Let's just say this is . . . a secret of the house."

At this point Kathy happened to catch José's eye and hastily looked away. It was impossible that a Venusian diplomat would be winking at his hostess!

George was still pursuing his questions over brandy in the living room. José, also possibly (Kathy prayed) in a question-asking mood, had led Linda out onto what the architect called the sun-area, though Kathy persisted in thinking of it, more romantically, as the balcony. As she saw the two turn to come back in, Kathy headed for the

kitchen, an immemorial spot for sisterly confidences.

But it was not Linda who followed her in. It was José. He leaned casually against the door jamb and told her, "Know secret of house."

"Yes?" said Kathy casually. "Oh, I mean—you *do*? Sometimes I have to stop and reread you, like a telegram. Well?"

"Bought food of highest quality, cooked it extremely well, relied on nothing but natural flavor, probably little salt. Good old George always wanted so much seasoning, this strikes him as new and revolutionary taste sensation. Right?"

KATHY grinned. "I'll go quietly," she said. "I thought it would work and I was sure of it when I ate at his regular lunch place. That's just what they do; but because it's a chop house with a reputation, he thinks it's magic. Except I've learned things his way, too. From now on, George gets variety at home—and I think he'll like all of it without ever knowing why he likes which."

"Simplicity also magic," José observed. "Your idea — clean, fresh simplicity of Linda that accounts for fact am going to be

your brother-in-law. Correct?"

"Correct? It's *perfect*!" Impulsively, Kathy kissed him. "Oh, my!" she said as she drew back. "Now you've got lipstick after coming off the balcony spotless!"

"Variety," said José approvingly. "Still wonder one thing, Kathy. Those mashed potatoes—extraordinary. If secret of house, there's where. Confide in me?"

"Now that you're part of the family, sure."

"Yes?"

"The secret is this: I take lots of butter and cream—real cow-stuff, no syntho—and I beat the living bejeepers out of 'em."

When they returned to the living room, it was obvious that Linda had told George the news. Using his newly recovered leg with as ostentatious pride as a year-old toddler, George advanced paternally upon José Ler-montov.

"Let tonight's dinner be a marital lesson to you, my boy. Remember the last time you ate here, and realize that there's no fault in a wife that a little husbandly persistence can't cure."

This time there was no doubt whatsoever that the gentlemanly Venusian diplomat was winking at his hostess.

—H. H. HOLMES



GALAXY'S **5 Star Shelf**

BEYOND HUMAN KEN. Edited by Judith Merril. Random House, Inc., New York, 1952. 334 pages, \$2.95

IT is rare that this sour-grapes reviewer goes all-out about an anthology; there have been too many and most have been of poor quality. Here is one, however, that is way up on the top of the pile: an "idea" anthology that contains fantasy and science fiction and thrives on both.

There are 21 tales in the volume, all of which tell about odd and unlikely varieties of life (and "non-life") on or off our planet. All but three rate B+ or better.

A rather rare high average.

Life types range from sentient houses (William Tenn) and whirlwinds (Robert Heinlein) to more or less standard robots, BEMS and alien invaders, none, however, in the least routinely described. There are tales of ghosts, werewolves, mutants, angels, "creatures," gnomes and, often best of all, completely real and civilized beings on or from other planets and realms.

Authors whose tales particularly enchanted me, in addition to the two men mentioned above, are Mark Clifton, Eric Frank Russell, Theodore Sturgeon, Laurence Manning (with a very

touching story never before published anywhere), Anthony Boucher, Roger Dee, Lester del Rey, and Murray Leinster. Del Rey's "Helen O'Loy," incidentally, is the only story to have first been published before 1940.

There is an excellent short bibliography of strange-life stories that have appeared in other anthologies: a fine idea, but here a little too short to be truly representative.

BY SPACE SHIP TO THE MOON by Jack Coggins and Fletcher Pratt. Random House, New York, 1952. 60 pages, illustrated, \$1.00

THE second volume in the Coggins-Pratt series on astronautics for the younguns is just as good as the first, which was (see *GALAXY*, January 1952) superb. The present volume takes you from Earth to the first Space Station, to the Moon—and does so in plain and not-too-technical language and in magnificent pictures, half of which are in full color.

No attempt is made to overdramatize the humdrum aspects of the undertaking, or to oversimplify. While it does not make the job sound easy, it does make it easy to understand, both in writing and in the illustrations.

GALAXY's November 1952

cover is used as one of the full-page plates (page 21) in the book. It is not often that the cover of a science fiction magazine is sufficiently accurate, engineering-wise, to appear in a non-fiction discussion as a good approximation of future reality.

REPORT FROM PARADISE by Mark Twain. Harper & Brothers, New York, 1952. 94 pages, \$2.00

WHY do people generally ignore Mark Twain's "science fiction?" Could it be because all his fantasy was bitterly satiric? That may be, but the best science fiction is shrewd, penetrating and often sharp in tone.

Well, here is Mark Twain at his satiric-fantastic best. The book is an expanded version, prepared by the late Dixon Wecter, of Mark's famous squib against pomposity in religion and in daily life, "Captain Stormfield's Visit to Heaven," plus a hitherto unpublished satire on the same theme, "Letter From the Recording Angel."

Two brand-new chapters in the Stormfield saga open the book with a superb attack on race prejudice. "The Recording Angel" slashingly satirizes hypocrisy and the meanness of miserly wealth; and the whole

wonderful document presents some of the most hilariously biting satire—and some of the richest science fiction imagination—that has ever appeared in print.

WITCHES THREE: CONJURE WIFE by Fritz Leiber, Jr.; **THERE SHALL BE NO DARKNESS** by James Blish; **THE BLUE STAR** by Fletcher Pratt. Introduction by John Ciardi. Twayne Publishers, Inc., New York, 1952. 423 pages, \$3.95

IT is with a little hesitancy that I discuss this book in these columns. Witchery is probably not appropriate here—especially stories which try to kid the reader into actually believing in supernatural powers.

Nearly the best thing about this volume is John Ciardi's sharp and poetic introduction, an appreciative review of the anthropological origins of belief in witches and a deftly subtle analysis of witch types.

As for the three novelets themselves, I find Leiber's "Conjure Wife," from a 1943 *Unknown Worlds*, to be straight-faced (and very well-done) obscurantism, based on the concept of the soul as a tangible (and stealable) article.

Blish's relatively short "There Shall Be No Darkness," from a

1950 *Thrilling Wonder Stories*, is somewhat more persuasive for me, perhaps because it is closer to being science fiction.

It is Fletcher Pratt's "The Blue Star," however, nearly novel-length by itself, that provides the real surprise of the book. This never previously published tale is an immensely effective piece of mannered pseudo-historical writing, a recreation of a time when witchcraft was *really* believed in—in this instance on a parallel world that is only slightly different from our world during its medieval period. It is full of color, sex, and wonderful, robust characters. The witchcraft, because it is placed in a suitable environment, is quite believable.

For my money, *Witches Three* is worth buying especially because of the excellent imaginings in Fletcher Pratt's splendid baroque tapestry.

THE REFUGEE CENTAUR by Antoniorrobes. Twayne Publishers, New York, 1952. 245 pages, \$3.00

WHEN Twayne sent me *Witches Three*, they also included in the package this changeling, this simple-mad tale translated from the Spanish by Edward and Elizabeth Huberman. It is just about the goofiest thing I have read since *Tristram*

Shandy. I don't know if it's any good; all I know is I enjoyed it!

It tells of the adventures of a real centaur in Nazi Germany, through the Spanish Civil War, and finally into modern Mexico, where the author of this book, famed in prewar Spain, is now living. These adventures are partly sharp anti-Fascism, partly straight bizarre romance, and partly (a large part) sheer nonsense, but the kind of poetic nonsense that loose-minded characters like the undersigned love.

VAULT OF THE AGES by Poul Anderson; *ISLANDS IN THE SKY* by Arthur C. Clarke; *MISTS OF DAWN* by Chad Oliver; *ROCKET JOCKEY* by Philip St. John; *SONS OF THE OCEAN DEEP* by Bryce Walton . . . Cecile Matschat, Editor; Carl Carmer, Consulting Editor. John C. Winston Co., Philadelphia. 1952. 206-16 pages, \$2.00 each.

WINSTON'S second set of science fiction juveniles maintains the same high quality established by the first five (*GALAXY*, Nov. 1952).

A bit oversimple in the writing (for adults, that is) and over-gadgetsy in the science, these tales nevertheless are clean as a whistle, excellent and effective promotion of scientific and technological

ideas, and "action-packed" without leaning too heavily on carnage and catastrophe, with one or two exceptions.

Poul Anderson's *Vault of the Ages* is one of the exceptions—a grim and thrilling picture of civilization destroyed and a barbaric society beginning its way back up the scale by means of data found in a Twentieth Century Time Vault.

Arthur Clarke's *Islands in the Sky* is a wholly convincing tale of a boy's adventures on our first artificial satellite.

Chad Oliver's *Mists of Dawn* is a dramatic but rather run-of-the-mill tale of a lad's exciting doings in the year 50,000 B.C., where he was placed by an accident to a time machine.

Philip St. John's *Rocket Jockey* is one of those rather old-fashioned tales of an "auto race" in space, with some nasty Martians as villains. It is perhaps the least convincing of the five tales.

Bryce Walton's *Sons of the Ocean Deep* is a genuinely exciting story of the exploration of the ocean bottom, and of the very surprising things that are found there. It's cast in the future, when space travel is old-hat.

The series is just the thing for the growing generation, and a fine lead-in for them to more adult science fiction eventually.

—GROFF CONKLIN

The Drop

By JOHN CHRISTOPHER

Certainly the cheapest way to get where you want to go is to be deported. And there are times when it proves the only possible way!

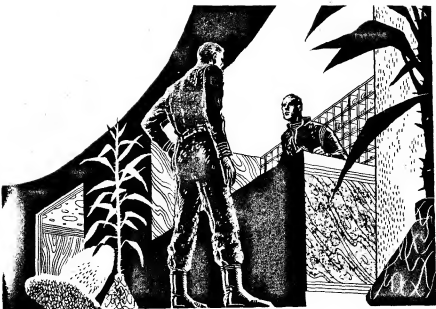
Illustrated by EMSH



WATER was always short between planets, even on a ship like the *Iron-rod*, so my first goal in Forbeston on Mars was always the pool. I stripped down to trunks, ultraviolet checked, and plunged out into the green-tinted water. After blowing around a while, I lay back and floated. Above, beyond the almost invisible protective dome, there was the purple velvet of the Martian sky, flecked, now

that the Sun was low on the horizon, with the larger stars. One of them, unwinking and tremendous, was green—Earth, of course.

From the pool to the club; the usual routine. The Senior Officers' Club was on the corner of 49th and X, just across from the Department of Commerce building. I had belonged to it two years now, and at 34 was no longer the youngest member. A prodigy of 31 had got his master's ticket two



or three months before.

I checked in, and from his little cubbyhole Steve recognized me, which was certainly an honor. He brought my mail down from its box: half a dozen bills, two voco-letters from a distant cousin, and a pile of advertising voco-flips.

Steve said: "Where've you been, Captain Newsam?"

The individual naming was another part of his technique. I had noticed that people he really had

known for years he just called "Captain," "Commodore," or whatever it was.

"Venus to Mercury run," I told him. "Clarke's Point, Karsville, Mordecai—the usual."

"You get around," he said. "I stick here."

I'd heard the complaint from him before, and also from others in Forbeston and at other land-falls. They mostly looked contented enough, though.

"One place is like another," I told him tiredly.

"Yes," he said. "I've heard that. What you're used to, I figure. Going in to eat?"

"Directly." I dropped the voco-flips in a disposal chute. "Do something for me, Steve."

"Any old thing. What is it?"

"Check me Captain Gains."

He didn't hesitate long, but I'm used to observing small actions and probing them—I did a thesis on behavior for my diploma. I saw Steve's eyes flicker, and the involuntary movement of his hands.

He said: "I'll check him, Captain. I haven't seen him around much lately."

"How lately?" I asked quietly.

He was smooth again now. "Well, you know how it is. With serving officers, you don't always know whether they're here or away. Even when they're at Forbeston, they don't always come into the club. Hunting trips and such."

"Your memory's not bad, Steve. Just when did you last see him?"

He pretended to consider. "Might be two months. How long you been gone?"

"Just over two months."

"Yes, I'd say that's about it."

"Thanks. Check him for me all the same. Check him all over. I'm going in to eat."

I FOUND an empty table by the window, and ordered. This part of the club overlooked the playground of the Forbeston Junior School. I sat eating and watching the generation that would be prepared to take over when I had completed my twenty years in space and was ready to retire to that plantation up in the hills. I didn't notice when someone came up to the table. He tapped the back of my chair.

"Mind if I join you?"

It was Matthews, from the *Firelike*. I had run into him at various times, in various places, and liked him well enough. I nodded, and he sat down.

"Just in?"

"Three hours."

He nodded. "Been in over a week myself. We're on the Uranus trip now. That's a rough job I'll be glad to see the end of. We lost the *Steelback* on our last run. It's a God-forsaken stretch of sky."

"One place is like another," I said. It was the conventional phrase.

Matthews glanced at me. "Glad you think so."

"What else?"

"People get ideas," he said vaguely. "Do you go near the Earth at all on your present run?"

"The Moon. Clarke's Point. Why?"

"We used to hit Tycho."

They've got a telescope there that's pretty good. I used to get into the observatory. You can make out some small groups of buildings on Earth when the weather's right."

The conversation was becoming embarrassing. To mention Earth at all was bad enough; to speak of "weather" was something worse. I looked at Matthews. He seemed normal, but I thought I detected a watchfulness behind the placidity of his expression.

I said deliberately: "I've never given it a thought."

"Sometimes people get to acting peculiar. We had a second officer with us three or four years back. He got an idea in his head that the Earth was raising a battle fleet. He used to spend his off-duty time at the lookout screen watching for the enemy cruisers approaching."

I laughed. "What did they do with him?"

"Gave him the drop. I guess he knows better by now."

"If he's still alive."

Matthews paused for a moment. "Have you ever wondered why we drop the misfits back to Earth?"

I looked at him again. "What is there to think about? The reason's obvious enough. Since the ruling was made against prefrontal leucotomy, it's the only

alternative to snuffing them out, unless they are kept in institutions at our expense."

He drained his coffee. "I've known some to say that we should never have abandoned Earth. It's richer in natural resources than all the planets together."

I added: "And populated to the tune of around a billion savages. We couldn't dispose of that lot, and we couldn't avoid being contaminated if we had to live among them. The reason our kind came to the planets was to get away from them, to be able to develop our superior civilization in peace and without interruption. We've got the Sirius project under way. In a couple of centuries we may be in a different solar system altogether."

"Or we may not," Matthews corrected. "There have been quite a few earlier projects, starting with the Proxima Centauri project. That was two hundred years ago."

"You sound pessimistic."

"It's the Uranus trip," he said. He grinned. "Forget it. One place is like another. Doing anything tonight?"

"Nothing much. Looking a friend up."

"Yes," he said. "I thought you might be."

The remark was, I felt, an enigmatic one. He left without waiting for me to ask him to clarify it.

I PASSED Steve on the way out.

"Any luck with Captain Gains?" I asked him.

He shook his head.

"Forget it then. I'm going along to his place. There'll be a message, even if he isn't there."

Steve nodded. As I went out, he flicked the vidiphone switch in front of him.

Larry's bubble was seven or eight kilometers outside the city. I took my own car to the West Lock and picked up a sand tracker there. The Sun had set when I got outside the city bubble, but Phobos was up and I didn't need to use the main lights to see my way. I made a good twenty and in about a quarter hour was under the ridge on which the bubble that surrounded Larry's place was fixed. I could see it shimmering in the full moonlight, but there was no sign of a light within.

I parked the tracker outside and went in. The lock was automatic; as it closed behind me, the main lights inside went on. Larry's shack was in front of me. I pushed the door open. The living room looked reasonably tidy, but there was dust that showed no one had been in it for some weeks, at least. I went straight across to the vidiphone and pressed the message button. The screen stayed blank.

-This was unusual. There should have been some kind of message. I set out to hunt through the shack for some kind of clue, but there was nothing.

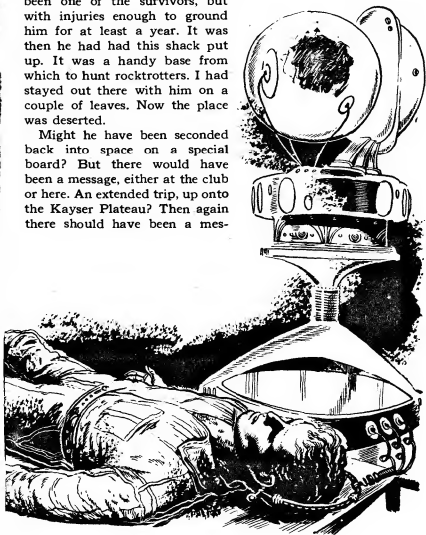
Larry Gains and I had gone through college at Tycho together, and we graduated together. Our first four years in space we were on the same boat—the *Graylance* on the Asteroid Circuit—and after the inevitable split came with my posting to the *Ironrod*, we still saw as much of each other as our wanderings permitted. Fortunately, both boats were based on Forbeston.

Six months before, the old *Graylance* had made its last loop



round the Belt; a chunk of rock weighing twenty tons or more had torn her open. Larry had been one of the survivors, but with injuries enough to ground him for at least a year. It was then he had had this shack put up. It was a handy base from which to hunt rocktrotters. I had stayed out there with him on a couple of leaves. Now the place was deserted.

Might he have been seconded back into space on a special board? But there would have been a message, either at the club or here. An extended trip, up onto the Kayser Plateau? Then again there should have been a mes-



sage; but he might not have expected to be away for long. That seemed the only possible solution.

But there was the thick dust, and there had been that funny look in Steve's eye when I had mentioned Larry.

I began hunting aimlessly around the hut again. A tape of the Forbeston edition of the *Tycho Capsule*. I clipped it into the screen. 24—7. That made it just over two months old.

I heard the door open behind me and turned around, half expecting to see Larry himself there. But instead there were two men in Medical uniform. One of them stepped forward.

"Captain Newsam?" He framed it as a question, but it was a statement. I knew that and nodded.

"Just a checkup," he said.

"I had a checkup. This afternoon. When I got in with the *Ironrod*."

"That's all right," the Medic said. "We won't keep you long."

"You won't keep me at all, I've had my checkup. You can reach me through Venus Base, if you're interested."

I moved to pass them. The one who had been talking didn't do anything. The other raised his left hand and shook it gently. Venusian arodete, of course, and they themselves immunized

against it. I saw the golden dust shake out toward me and had time to run two or three paces before my muscles locked and everything went black.

WHEN I awoke, I was in the Medical building, back in Forbeston. My muscles were still rigid. I was on a stretcher underneath the Verifier. The two Medics were there, and a Medic Captain. He was a little tubby man with ginger whiskers and a toothy grin.

He said: "Sorry about the informality. Just a routine. We did have a warrant, incidentally, in case you should feel like registering a complaint against us."

Being underneath the Verifier explained the arodete, but it didn't explain why. I thought of saying something and then decided to keep my mouth shut. The electrodes were clamped neatly behind my ears. The globe of the Verifier glowed its normal pink.

The Captain said: "My name's Pinski. Now, Captain Newsam, you are Chief Navigator of the *Ironrod*, on the Venus-Mercury run?"

"Yes."

"Landfall five hours back?"

"If I've been out half an hour, yes."

The questions continued. For the most part, they were routine.

Pinski kept one eye on the Verifier globe. Then he started tossing in a few more unusual ones.

"Ever been among the outer planets?"

"Beyond the Asteroids? No."

"Do you know Commander Leopold?"

"No."

"Commander Stark?"

"No."

"What are your views on prefrontal leucotomy?"

"Never thought about it. It's not used now, is it? They give them the drop."

"What do you think of the Sirius project?"

"Not much interested."

"Do you ever dream of wide stretches of water?"

"Not since I was a boy."

I had no reason to fear anything from the Verifier, so it didn't make me nervous. The globe stayed pink as the questions went on.

Pinski said: "What were you doing at the place where the Medics found you?"

"I was looking for Captain Gains. Perhaps you'll tell me where I can get hold of him."

Pinski grinned. "I'm not under the Verifier, Captain Newsam." He stepped back. "I think that's all okay. Sorry to have bothered you. In two or three minutes you'll be able to get around again. Call in the Bar on your

way out. Third on the right along the corridor. I'll be in there. The drinks are on Medical."

I found him all right. He was sitting at a table with two drinks in front of him. Someone must have told him I drank sloe gin. I sat down at the empty chair.

"Glad to make your acquaintance in a more formal manner, Captain Newsam," Pinski said. "Have a drink."

I took it. "Now just why—"

He lifted one hand. "To get things quite straight, I can give you no information as to the reason for your being picked up and verified."

"Right," I said. "Then do you know where I can find Gains?"

He hesitated briefly. "The answer must be no."

I swallowed the drink. "Thank you very much for all the hospitality. Good night, Captain Pinski."

"A piece of strictly medical advice," he said. "Go back to bed and have a good night's sleep."

I called back, "Thanks!" I was halfway to the door.

FORBESTON, like all landfalls on the interplanetary routes, has its less respectable side. I drove down to the East side and parked the car at the corner of 90th and J. The Persepolis is a small club at the far end of 90th. I'm known there, but every time

I go I feel less and less like boasting of it. I had a couple of sloe gins at the Bar and then went up to the Saturn Room. Cynthia came at me from behind.

"Hello! Long time."

"Seems longer," I said. "Tell me, when was Larry in last?"

"Larry? I haven't seen him since you were both up here—nine, ten weeks ago. But I've been away on a trip up the Long Canal. Tell you what, I'll ask Sue."

"That'll be fine," I said.

She was gone two or three minutes. When she came back, she said: "No. He doesn't seem to have been around since then."

But she wasn't being spontaneous any longer; she was weighing her words. And she didn't seem at all curious as to what might have happened to him.

"I thought we were friends, Cynth," I said. "Come on, what is it?"

"What's what? I could do with a drink."

I dropped a note on the table. "Have this one on Larry. See you, Cynthia."

She caught me before I reached the door.

"I don't know, Jake. I honestly don't know. All I was told was that it was best not to inquire."

She was telling the truth now.

"Thanks," I said. "Good night, anyway."

"Where are you going?"

"There's only one place where I stand a chance of finding things out."

I was thinking about that as I went outside. The Terminal Office had tabs on all officers on the space routes. If Larry had not been reporting for his fortnightly medical boards, they would know, and they would certainly have checked to see what was happening. If there was something else wrong, they would know that, too.

I jumped into the car without thinking and released power.

Behind me, a familiar voice said: "You don't seem to have had any luck in finding your friend, Captain Newsam."

It was Matthews. His tall body was cramped into the back of the car.

"Good of you to join me," I said.

"I'd like you to drop in at my place. It's on 72nd."

"Is there anything at the end of it? Information?"

"A drink. Maybe information."

"Suits me," I told him, and headed there.

IT was a more luxurious apartment than I thought Matthews could have afforded. Four rooms, all well furnished. He set me down in a long chair in front of a glow-fire and brought me the drink. He had it right, too—sloe

gin—but the fact that everyone knew my taste in liquor had ceased to worry me.

"Now," I said, "I want to know where Larry Gains is."

Matthews raised his eyebrows. "Gains? Ah, he must be this friend you didn't find."

I said wearily: "What information do you think I came here for?"

"I thought you came for the drink. No, don't go. If you try the Terminal Office at this time of night, you'll only get the clerk, who will tell you to come back in the morning. Finish your drink and have another. I understand you got picked up for verification earlier this evening."

"Yes."

"What sort of questions did they ask you?" I told him and he nodded. "Leopold . . . Stark . . . That's interesting."

"Just what is it all about?"

He paused. "That little talk we had this afternoon. Remember it?"

"More or less. You were talking about misfits."

Matthews looked straight at me. "Captain Larry Gains was classified as a misfit three weeks ago. He was dropped to Earth over a week ago. Is that what you wanted to know?"

"You're off your rocker yourself. Larry was perfectly sane when I saw him just over two

months ago. It takes two boards three months apart for misfit classification."

"Not," Matthews said softly, "for classification 3-K."

"3-K? What in hell is that?"

"Organized activities against the State."

"Larry? Don't be funny!"

"Tell me," Matthews said, "what do you know about the Earth?"

"Ordinary general knowledge. That when the Third Atomic War broke out on Earth, the colonies on the Moon and here on Mars declared their neutrality. The technical staffs on the Earth bases for the most part pulled out to join them; those that didn't presumably got submerged in the holocaust. The state of the war was followed by wireless until the last transmitter went off the air, marking the breakdown. The colonies concentrated on their own expansion—first, on the Moon and Mars; later, on Venus and with the outposts in the Asteroids, and on the moons of Jupiter, Saturn and Uranus. There was no point in going back to an Earth poisoned with radioactive gases, with a savage population rotted by radiation diseases. The obvious thing was to expand outward, toward other solar systems."

"And, of course," Matthews said, "there was the Protocol."

THE Protocol, I suppose, could be called the basis of our education—that the old and outworn should be put behind; that Man should go on to greater things, never turning back to the world of misery and wretchedness to which he had for so long been confined. There was a lot more, but that was the gist of it. Children learned it by heart.

"Yes, the Protocol," I said. "The Protocol rose naturally enough out of the circumstances."

"Out of the circumstances," Matthews agreed. "But circumstances change. The Protocol remains the same."

"Why shouldn't it?"

"Well, grubbing around from one artificial environment to another—do you think that's the best existence men can have? Turning our backs on an unbelievably fruitful planet?"

"It's only a temporary phase. The Sirius project—"

"—is a failure," Matthews cut in. "We won't be told about that officially until a new project has been got going—another carrot in front of the donkey. But it's a failure. Two planets, neither one habitable or capable of being made habitable."

I said slowly: "Now perhaps you will tell me just what all this has to do with Larry Gains."

Matthews got up and walked across to the telescreen. He

touched a small switch on the left-hand side, and the screen moved into patterns of whorls spreading out from the center. I recognized it for a watcher-alarm: if anyone were tapping the room, the whorls would be irregular and broken. Matthews came back and sat down again.

"Gains had a lot of time on his hands after his crackup. He got to thinking things over. He happened to meet someone in our group. To put it shortly, he joined us."

"Your group? Joined *you*? Who are *you*?"

"We represent a party whose objective is to overthrow the Protocol. We want to get back to Earth, to recolonize it and reclaim it from savagery. Gains came in with us."

"You're crazy! What makes you think you know better than the Directorate? We're improving conditions on the planets every year. Why, the new bubble up the Long Canal takes in over forty square kilometers!"

"Bigger bubbles," Matthews said, "but always bubbles. Never the chance to live a natural life in natural surroundings."

"And Larry? You let him get caught?"

"It was bad luck."

"Bad luck?"

"He and another of our group had their conversation tapped.

They were both taken. Fortunately, neither of them knew more than a couple of other people in the group, and those two people got away. We couldn't do anything for Gains and Bessemer. They were held strictly incommunicado."

"So he's really gone. You're sure they're not still holding him somewhere?"

"On some points our information is definite. They've been dropped all right. On the North American continent—that's the usual place they drop misfits."

SOMETHING had been worrying me all along, and suddenly I knew what it was.

I said warily: "Well, I've got the information I came in search of. Now I'm beginning to wonder why I got it. I don't imagine you thought I would be a cinch for your organization just because Larry had been in it, did you? And yet you've told me a lot which you can't be in the habit of passing out casually. What's behind it?"

"Well, we haven't told you anything the Directorate doesn't know," Matthews said evenly. "Except that I'm in it, and I have my means of getting away; in any case, I'm expendable. But you're correct in thinking there was a reason. Gains was a good friend of yours."

"The best."

"He was a good man. We didn't want to lose him, and we'd like to get him back."

"Back? From *Earth*?"

"We have a small cruiser at our disposal—that is confidential and I've burned both your boats and ours by telling you—and we can get down to the Earth and back again. It isn't easy, and of course there can be no question of organizing search parties. But if someone else were dropped, with instructions for Gains and Bessemer as to a spot to go to to be picked up, all three could be taken off. We're lucky that misfits are always dropped in more or less the same area. It means finding them is made easier for us. It might be possible."

"What's known about conditions in that part of the planet?"

Matthews looked at me levelly. "Not a thing."

I paused. "All right, I'll go. How?"

Matthews smiled. "I thought you would. As for going—that's easy. You intended to drop in at the Terminal Office. Do that. If you are persistent, they'll inform you about Gains. After that, it's easy. You will be under automatic examination at the Office, and the shot of adrenalin you will take before you go over there will register. You will be pulled in on suspicion. Certain papers

will have been planted in your things at the Club. From that point on, things will be straightforward. All we have to do is just hope that when they verify you again, they keep a reasonable distance from suspicion of what's really happening. I think they will. Verifiers aren't very good nowadays."

"Thanks," I said. "You seem to have everything well worked out. Just as a matter of interest, that remark about burning both my boats and yours—if I hadn't volunteered for this, what would you have done?"

"We were fairly sure of you," Matthews said. "But if we had been wrong . . ."

He turned his thumb down very regretfully.

I WAS surprised how quickly the proceedings were rushed through. The papers Matthews had had planted in my gear must have been very incriminating. I was transferred to the Moon, to Archimedes Crater, for the final decision, but it was cut-and-dried beforehand. Within a week of my conversation with Matthews, I was standing in front of the Board, listening to myself being pronounced a misfit and condemned to the drop back to Earth. I was marched out.

Someone was waiting for me in an anteroom. It was Pinski.

I said: "I've been verified three times in a week. I'd never have thought you would have needed any more."

Pinski smiled. "This time it's different. You have a compulsory total recall to go through."

"You can't do that. Regulation 75 states that no one can be put under a form of interrogation that his conscious mind cannot observe. The Verifier is the limit."

"You know the regulation," Pinski said, "ex-Captain Newsam. Unfortunately, they don't apply to you any longer. The State has cast you out. This won't take very long."

So much, I thought grimly, for Matthews' sources of information. There was nothing I could do now. I could resist, but that would only mean being put into an arodote paralysis.

"Sit down," Pinski said.

The little silver balls began to revolve; the mirrors gleamed with strange lights. I heard Pinski's voice, close at first, and then from greater and greater echoing distances.

After an indefinite space of time, Pinski's voice again:

"Wake up, Newsam. Wake up."

I raised my head, my mind clear. Pinski was looking at me commiseratingly.

"You've had tough luck," he observed. "They certainly roped you in."

I wasn't sure how much they had got from me, though I guessed it would be everything.

"I'm not complaining," I said.

"There's no provision for reclassifying misfits, I'm sorry to say. If there were, we might have saved you. As it is . . . you can take the drop in the satisfaction that you've done the Directorate a final service. We didn't know about that cruiser." He paused. "The boat's outside. Good luck, Newsam."

We shook hands. The guards took me outside, through the lock to the Main Ramp. I had a last look at Archimedes, spread squatly around under its glistening bubble, and went through into the boat — a light coracle.

During the takeoff and the three-hour journey toward Earth, I had time to consider things. Matthews' little scheme had been nicely blown up. When the cruiser arrived at the rendezvous that had been arranged, there would be a handy battle fleet waiting for it. What fools they were, anyway, to attempt to outwit the Directorate! As for resettling the Earth . . . I had the job of doing it on my own now, with the aid of Larry and this fellow Bessemer—if I could find them at all.

THE coracle dropped into an orbit, and they made the final arrangements for the drop. Mat-

thews had been right, at least, in saying that they didn't drop misfits at random. The whole thing was meticulously calculated. When they finished, I was fitted up in the dropsuit.

The captain of the coracle, a small, morose fellow, gave me instructions.

"The five retard jets will fire automatically. After the fifth, the first parachute comes into action, and ten seconds later the second." He grinned sadly. "If nothing has happened after fifteen seconds, you'll know something has gone wrong in the packing. You'll smash flat in that case, killed outright. You'll feel no pain whatever."

"Thanks," I said.

"We've never had any complaints before, but then I suppose we wouldn't. The spot you are to hit is the place we always send misfits. Out of the generosity of the Directorate, it's good hunting ground and, if you survive long enough, you can probably even farm it. Within easy reach of the ocean, too. Used to be called New Hampshire."

"Any provisions?"

"Concentrated food for a week. And a Klberg pistol with a hundred rounds. I'd look after them if I were you—which I'm glad I'm not, incidentally."

They eased me out of the lock with stopwatch timing. I didn't

wait for the airblast to push me clear; I sprang off myself. As I did so, the clearance jet pushed behind me. Tumbling over and over in space, I saw the coracle shrink behind me like a deflating balloon. I was on my own now with a vengeance.

Just after the fifth retard jet, a thought struck me and sent a prickling apprehension down my spine. Matthews had failed to anticipate the compulsory total recall. What if he and his group were wrong in another minor detail? There might have been more than a gruesome jest in the Captain's remark about the second parachute not opening.

Who would know if the drop ended in death? Might not the Directorate feel that so swift an end was only merciful?

The first parachute opened with a jerk, and I began counting, slowly, in my head.

At fifteen, I knew I was right. I was plunging down faster and faster through the thin air. Death was below me.

At twenty, with a heaving jerk, the main parachute opened. The Captain's sense of humor had been even more gruesome than I imagined.

Still, untrained as I was for this kind of thing, I hit the ground hard. Rolling over, I hit my head against something and I went out, thinking, just as I blanked, that

I was getting tired of being unconscious.

BEFORE my eyes opened again, I heard Larry's voice. I thought of it as a hallucination, but it was a remarkably persistent one.

"Come on, Jake, you're all right now."

I opened my eyes. It was Larry. Stranger yet, there were half a dozen people behind him. And two of them were women.

"I was to have found you and taken you to a place up on the coast, for a cruiser to take us off," I told him miserably. "But the Directorate knows about it. The whole thing's a trap."

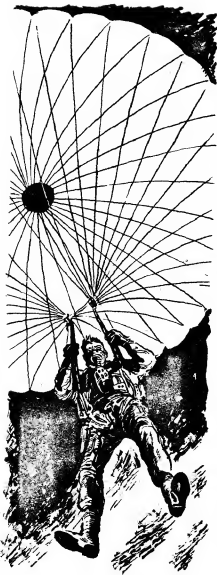
Larry laughed. "It's a trap, sure enough, but the Directorate hasn't got it quite right."

"I'm serious," I insisted. "They got it from me under total recall."

"We knew that," Larry said. "Matthews couldn't warn you of it, of course, or the warning itself would have shown up. So there had to be another story—one that would convince you, and throw the Directorate off the scent at the same time."

"How do you know all this?"

"We haven't got a cruiser," Larry said. "We haven't even got a coracle. But we do have wireless communication. We were waiting for you. We always are waiting for misfits."



"We?" I asked.

"We have a nice little colony here. Fifty-eight of us, and still growing."

They had been helping me out of the dropsuit. I felt a breeze on my face, and the smell, the indescribable smell, of natural air laden with a dozen different scents of flowers and grass and trees. Larry was watching me.

"It's really something, isn't it?"

"What about the savages?"

He shrugged. "There may be some to the west. We haven't had time to look properly. But this country's clear."

There was soft turf beneath my feet.

"But *why*?" I asked. "The Directorate must know what this planet is like. Why don't they move back, instead of fumbling around with interstellar projects that never get anywhere?"

"The Directorate is an organization designed to rule a set of neatly controlled artificial cities—a state spread out over nearly a dozen planets and satellites, but an entirely urban state. If men came back to Earth, came back to farm the land, living in villages as we do now, the Directorate's power would be broken. If you want any more reasons, you just don't know enough about human nature."

"And can we beat them?" I asked him. "Can we defy them

under their very noses? With the Tycho telescope trained on the Earth, inspecting everything?"

"We don't want to beat anybody," Larry said. "We're satisfied to escape notice. The village is made of small, scattered buildings, and even then they are camouflaged to make them harder to spot. We farm our land, and our agents on the planets pick our recruits."

"Matthews," I exclaimed suddenly. "Poor devil—he's still at Forbeston!"

"You'll see him shortly. He's due to be arrested within three months."

He laughed and the rest of the small party with him. I saw the joke myself, and began laughing almost uncontrollably. Larry put an arm on my shoulder.

"Take a look at that," he said. "Take a good look."

I looked and saw the sunset. It was glowing through clean, pure air instead of a bubble or a viewport.

—JOHN CHRISTOPHER

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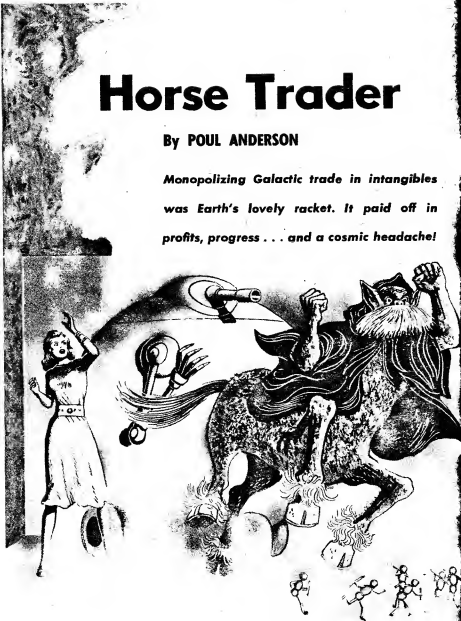
Here are the details and rules of the \$6500 Galaxy Magazine and Simon and Schuster Science Fiction contest announced on page 77

1. The closing date is October 15, 1953. Manuscripts may be submitted at any time prior to that date and sent to NOVEL CONTEST, Galaxy Science Fiction, 421 Hudson Street, New York 14, N. Y.
2. Manuscripts must be ORIGINAL (never before published in any form) and not committed to any other magazine or book publisher.
3. Novels submitted must be between 60,000 and 75,000 words in length, typed in black ink on one side of white bond paper, double-spaced, with at least an inch margin on all sides and each page numbered.
4. Manuscripts must be accompanied by sufficient postage for return.
5. There will be only ONE winner, but all other submissions of merit will be given full consideration for possible serialization in Galaxy Science Fiction Magazine, book publication by Simon and Schuster, or both, at standard rates.
6. There are no requirements, stipulations or taboos regarding themes. Fresh ideas and convincing characterization, conflict and plot development are the important criteria. Writers who enter the contest can best familiarize themselves with the standards of the judges through study of the science fiction published by Galaxy Science Fiction Magazine and Simon and Schuster.
7. Sole judges will be the editorial staffs of Galaxy Science Fiction Magazine and Simon and Schuster. The decisions of the judges will be final.
8. Contestants agree, in submitting their manuscripts, to accept standard publishing agreements with the sponsors of the contest in the event that their novel is the winning entry.
9. Anyone may enter this contest except employees of the Galaxy Publishing Corp. and of Simon and Schuster, Inc., and their families; AND authors who are ineligible because of contractual obligations to their present publishers . . . which means, in effect, that contestants will NOT be competing with most of the established "big names" of science fiction.

Horse Trader

By POUL ANDERSON

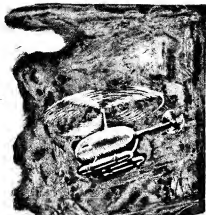
*Monopolizing Galactic trade in intangibles
was Earth's lovely racket. It paid off in
profits, progress . . . and a cosmic headache!*



B. C. 250: The aeolipile of Hero spun in the temple at Alexandria, hissing softly to itself and blowing jets of steam into the firelit dimness. It was only for display, an embryonic turbine which would develop no further for lack of the knowledge that it could be put to work. Fifty light-years away, on the planet he called Ruhannoc, Zerwil the Wise had made an ingenious contraption which could have evolved into a pump or a locomotive engine; but it never did, because it had not occurred to anyone that there was any other source of energy than living muscles.

A. D. 1495: Leonardo da Vinci regarded his airplane model wistfully, and then laid it aside. It could have flown; Man could have risen even as the birds, save that there was no power plant available. He did not know that there was a planet less than nine light-years away on which they were building efficient internal-combustion engines, and that for several reasons—among them the fact that aerial life had never evolved there—they did not think of using this power to give themselves wings.

A. D. 1942: The Allied nations were searching with an intensity approaching desperation for a means of detecting the enemy submarines whose wolf packs were harrying their convoys and



threatening to snap the thin Atlantic lifeline. Supersonics looked promising, but that was a little-known field in which researchers had to start from the very bottom. Not far away, as Galactic distances go, the people of Sumanor on the planet they called Urish could have told the Allied councillors everything about supersonics. It would have been a fair exchange, for on Urish they had never heard of submarines.

A. D. 2275: The rangy blond man with the somewhat improbable name of Auchinleck Welcome stepped off the sidewalk and strode across the springy, semi-living warmth of the floor toward the arched gateway. Suitably dignified flame-letters danced above it to spell out:

BUREAU OF INTERCULTURAL EXCHANGE
Technical Division

But some light-hearted soul had painted a horse on the door and Welcome, not one to stand on dignity, had allowed it to remain. His office was known from Mercury to Minerva as the Horse Traders. He was willing to agree that the description was apt.

The door opened for him and he walked through the outer office, nodding to the clerks and secretaries at the computers, tape-files, dictoscribes, and the rest of

the complex office paraphernalia. A few bars of *Waltzing Matilda* whistled between his teeth as he entered the inner suite. The receptionist smiled at his greeting and he went by her and through the office of his private secretary, Christine Ernenek.

"Morning," he said, pausing. Despite all the years he had spent in space, there was still a hint of Australian twang in his speech. "How's life?"

"Just fine, Auch," the Greenlander answered. "I think you have a busy day lined up."

"Who's first?"

She glanced at her memotab. "The little duck from Arcturus. Robotics, you know. Have you seen him yet?"

"No, too busy. He'll have been going through the usual processing first, anyway." Welcome sighed. "When will Health get it through their heads that Man hasn't caught an extraterrestrial disease yet?"

"There's always the first time, Auch. And then the diplomats and so on have to see him. He is a sort of ambassador, after all."

"I know, I know." Welcome nodded impatiently and fumbled out a battered corn-cob pipe and began stuffing it. Christine had been in the office longer than he; he'd only been given the job a month ago, because of his engineering work on Freyja. A flicker

of eagerness kindled in him. "This robotics stuff may turn out to be one of our biggest hauls."

"Maybe so." Christine giggled. "He's cute, that duck." Glancing at the tab again: "Then, of course, you're still negotiating with Vega, Sirius and Procyon. Oh, yes, and a Centaurian."

"What?" Welcome almost dropped his pipe.

"A Centaurian. Alpha A III, from the clan of Brogu, continent of Almerik, name of Helmung. He wants spaceships and atomic energy in exchange for witchcraft."

"Oh, no!"

"The main office said for you to see him, anyway. He seems to have special abilities — Well, you'll find out." Christine grinned with friendly malice. "Good luck."

WELCOME shrugged and went on into his own office. You had to take the bad with the good, he supposed. There had been the tentacled monster from Van Maanen's Star who had grown very indignant on learning that Earth didn't care to trade the null-null drive for a system of astrology which, taking Galactic drift into account, was guaranteed infallible. But against that you had to balance the Zarbadian selective-killing process; with a little more work, that device

should be able to annihilate any disease germ just by putting the patient under a force generator. And at the present moment, the envoys from Procyon and Vega—possibly the one from Arcturus, too—were carrying portfolios which meant revolutionary technological advances for Earth.

When it took more than four years objective time to reach even the nearest star—however short the interval was subjectively for those on board the spaceship—the traditional cargoes became valueless. No mineral, no material treasure whatever, was worth the cost of such hauling. Nor was there any special reason these days for humans to emigrate. But the intangibles of knowledge—that was another matter. You could well afford to spend a few megacredits and decades, if it meant learning a technology your race might not otherwise master for a thousand years.

And Earth had the only intercultural clearing house in the Galaxy. *They still have to come to us, even if we are the ones who haul them here and back. I just park myself and wait.*

Welcome sat down, feeling the sensuous flow of the chair as it modeled itself to his angular contours, and let his eyes rove the office. It was a big room, tastefully decorated in the Neoflamboyant style, a broad window

opening on the jagged view of Luna beyond the dome. It was near dawn, there was a glare on the highest peaks shouldering above the horizon, but Earth still dominated a heaven full of stars. He glanced at the planet, thinking of his family in Sydney. They were visiting there. It wasn't fair to children, keeping them on Luna all the time; they ought to have some sea and open sky.

Well, work to do.

A RCTURUS — Two planets with intelligent natives, of which only one group had more than a primitive technology, Welcome recalled. Those were a friendly race, anxious to please, and the three expeditions there had all returned quite excited about the cybernetic advances of the leading nation. So now the Arcturian ducks had come to swap horses. Welcome decided that he would get some rather low-pressure salesmanship; after all, the Arcturians couldn't be sure how much humanity already knew, and they were not an aggressive breed.

Still, when you met a people who weren't human to begin with, and had a different cultural pattern to boot, you never knew what to expect. That was the reason for the informal basis on which the Horse Traders were allowed to operate, and their

chief's nearly absolute power to drive bargains. But God help him if he made a mistake!

Christine's voice came over the intercom, jarring him to full awareness: "The envoy Rappapa of Kwillitch, planet Arcturus V, to see you, Freeman Welcome." There was a confused noise in the background, and he thought her voice held an uncontrollable laughter.

"Send him in, please."

Welcome stood up as the door opened. Since notions of courtesy varied fantastically from world to world, he had decided to stick by Terrestrial conventions.

"HUP-two-three-four! HUP-two-three-four! HUP-two-three-four!"

Welcome thought briefly and wildly that he must be dreaming. A small regiment of dolls was entering his office.

No, not dolls—robots, shiny humanoid robots five inches high. They goosestepped in perfect marching order, swinging their arms in unison, accompanied by tanks and helicopters built to scale. Behind them, quacking his shrill commands, was the Arcturian. He was of ostrichlike shape, some four feet tall, blue-feathered and crested; instead of wings, he had skinny four-fingered arms carrying a large box, and his head was big and round, pop-eyed, with a flexible bill.



"HUP-two-three-four! HUP-two-three-four! Com-pan-ee — HALT! Ri-i-ight—FACE! Present—ARMS!"

THE toy soldiers halted, wheeled, and snapped to attention. A helicopter buzzed watchfully over Welcome's head. It was about the size of a pigeon.

"How do you do, how do you do, noble sir?" The Arcturian bowed, touching the floor with his beak. "I trust that you in splendid health find yourself?"

"Yes," said Welcome faintly. "Excuse me while I pick up my jaw."

"If I your excellency's magnificent jaw have caused to fall, it is to be of the most apologetic," said the Arcturian unhappily.

"Never mind," said Welcome. "Please sit down, Freeman Rappapa. If you wish to," he added hastily; he couldn't remember whether this particular species sat or not.

"If you will it of indifference find, I will stand in the luminous presence of your excellency," said Rappapa. "Among my greetings-to-you-conveying folk, only nesting females sit."

"I—well, do you smoke?" Welcome extended a box of cigars.

"You are to be magnificently thanked," said Rappapa, accepting one. "*Whichuwaki!*" One of

the helicopters swooped down and shot out a flame to light it for him.

Welcome seated himself. "I take it those are robots."

"Of a most humble sort, for demonstration purposes alone," said Rappapa. "They are powered by radiation from this control box here, as your excellency is undoubtedly aware. The brain circuits are also herein contained. Each machine has its individual brain, controlling the external body, or any number of brains can be joined in series to produce higher effectiveness."

WELCOME forced himself to be impassive. Inwardly, his heart leaped. If the Arcturians could make a cybernetic setup that compact, what *couldn't* they do?

"May I add they can act at individual discretion, within the limits of their basic directives?" said Rappapa eagerly. "Possibly toys or household servants for your superb people?"

"It seems to me that a house could be built to do everything itself, without needing a special robot," said Welcome.

"Of a most surely! These, as I say, are illustrative only. It has insignificantly occurred to me that your splendid spaceships could be given brains of their own, eliminating necessity for

crews on those so-long voyages."

"To be sure, Freeman Rappa-pa. And control and communications in general—you can doubtless show us a great deal we don't know."

"It is of a strangeness that you, who so daringly bridged the stars, have not surpassed us in this humble endeavor."

"Well, it's not so odd, really." Welcome rekindled his pipe. "Many things determine the technological progress of a culture: social need and demand, the general background of knowledge and tradition, the ability of individual researchers within a given field—sheer accident, too, I suppose. My race has gone furthest in developing transportation and energy sources. Your people stayed on their planet, but instead have gone in primarily for robots, automata, computers—cybernetics. On Procyon A III, they're super-biologists, especially in the line of controlled genetics, but lack atomic energy. And so on throughout the Galaxy. It would be strange if the history of any one race had caused it to excel in everything."

"I am blinded by the clarity of your explanation. Sir, dare I hope that you will find our little skill worthy of consideration?"

"Indeed you may," said Welcome. "Was there anything in particular you would like to have

from us, or do you first want to see what we can offer?"

"Your incredible process for obtaining atomic energy from the disintegration of any matter whatsoever would prostrate us of Kwillitch with joy."

THE human rubbed his chin. That was certainly a reasonable enough asking price. In fact, his conscience hurt him a bit.

"I think that can be agreed on," he said blandly. "You have, of course, brought specialized assistants, and plans and textbooks and so on, from which our people can learn what you have to teach them? Good. Then you should designate some of your people to study our energy-conversion techniques. The new hypnopedic system will make it possible for both sides to learn these things rather fast. Of course, it isn't quite that simple. One can't introduce a new science into a vacuum. For example, being told all about nuclear disintegration isn't going to help you unless you already know something about magnetronics. I'll give you a general outline of the course, and would like you to prepare a similar outline dealing with cybernetics, just so each side can know exactly what it is the other has to offer. Then the final agreement can be made and we can proceed to teach each other."

"That is a scheme of the slyest magnanimity," said Rappapa with innocent enthusiasm.

"Excellent." Welcome slouched farther back in his chair and went on to social matters. How did the Arcturian party like the quarters which had been prepared for them here in the dome? The food and gravity and air-conditioning were satisfactory? They were enjoying themselves? Tours of Earth would be arranged for them—everything to make the guests from afar feel at home.

And to disarm them, make them more receptive to our suggestions. Well, why not? When the future of entire planets is involved, naïveté would be criminal.

Rappapa was charmed and quacked eloquent praises. His party had already seen a good deal of the dome, met the other extraterrestrials currently there, been lavishly entertained.

Welcome nodded. There was certainly no rule against the different embassies having contact and perhaps driving their own bargains independently of Earth.

As a matter of fact, such a deal was going on right now. The Sirian knowledge of nucleonics had turned out to be inferior to Earth's, but the Vegan representative—who had come alone—was willing to trade some of his high-pressure chemistry for it.

Welcome didn't care very much, since he could always get

the chemistry from Vega in exchange for something else—or even from Sirius, perhaps. Once a planet—or nation, tribe, clan, individual—had bought a technology, it was their own business what they did with it. A Horse Trader operated between all parties, playing both ends against the middle.

"ON a lower plane than your excellency, I think—"

Rappapa was interrupted by the buzzing of the intercom. Welcome flipped the switch and Christine shouted half hysterically: "No, you can't go in there. He's busy—Auch, look out! The Sirian—"

There was a thunderous crash on the door. Rappapa squawked and made a Lunar-gravity leap to cower behind his regiment. The door flew open and Thevorakz of Dzuga, Dominator from Sirius A IV, stalked in, waving his arms and roaring.

He was a centauroid, with a quadrupedal gray body and a lashing tail. The upper torso, swathed in a black robe and cowl, was almost human; a bristling white walrus mustache concealed the fact that he had no chin. Under a forest of brow, his ruby eyes glared fire, and his ears twitched and his hoofs stamped ominously.

"You!" he bellowed. "You low thieving monthter! You thcum!

You dominated! I do not like you!"

Welcome got up, grateful for the expanse of desk between him and the newcomer. "What's the matter, Dominator Thevorakz?" He tried hard to keep his voice level.

"I thpit my cud on you!" roared Thevorakz. "I foul your floor! I go home to Thiriuth and come back with an army!"

Christine squeaked in the doorway and sprang aside for the envoy from Vega VII. The gleaming six-foot sphere rolled slowly in on its wheels, laying a mechanical hand on Thevorakz's rump, and the viewer swiveled toward Welcome. It looked uncomfortable like a gun.

Inside, breathing hydrogen and ammonia at a pressure of incalculable atmospheres, the monster known only as George was staring at the human. His force-filled generator hummed in a sudden crackling silence; if it ever quit, the vehicle would blow up like a gigantic bomb and scatter the dome from here to Copernicus.

It had been a long, difficult, and expensive proposition to contact the natives of New Jupiter and get one of them to make the trip, but living under such conditions, they had learned things about high-pressure chemistry which men had never imagined. They wanted atomic energy and

control circuits in exchange. The first they had gotten from Sirius, the second they had intended to get from Earth.

Only —

WELCOME swallowed uneasily and put indignation into his voice. "May I ask the meaning of this intrusion? You know very well that I am in conference with the freeman from Arcturus."

"That *amorakz*!" shouted the Sirian. "Dithmith him!"

"Help!" wailed Rappapa. His robots formed a hollow square about him.

"Calmness, please." George's Voder voice was flat. "I think, Freeman Welcome, you know very well why we have come."

"No, I don't."

"You do tho!" roared Thevorakz.

"I shall detail the matter," said George. "The Sirian group and I reached a bargain, and I educated them as agreed. Naturally, there were many technical data which it would be pointless to memorize, formulas and constants and the like, and I gave them a book of tables. Those tables are the main thing of value which I had to offer, since the basic theory of high-pressure chemistry is already known to you and to Sirius. Dominator Thevorakz put this book in his strongbox last night. This morn-

ing the box was open and the book was gone."

"You don't — no!" gasped Christine.

"I'm sorry to hear of this." Welcome forced calmness on himself. "The matter will be investigated at once."

"By you!" bellowed Thevorakz. "And you are the mithbegotten dominated who thtole it!"

Welcome loosed a calculated anger. "You're insulting not only my personal integrity, but the honor of Earth. You have violated the sacred obligation of a guest to his host. I demand an immediate apology." He stalked forward, swinging his clenched fists at his sides.

"I will help your excellency," quacked Rappapa. "Company forward! On the double! Hup-hup-hup-hup-hup!" The robots goosestepped after the man.

Thevorakz suddenly looked worried. "If I *am* mithtaken, I will apologize," he mumbled sullenly. "But the book had better be found, and you had better prove you did not take it."

Welcome turned to George, preferring the chill sanity of the monster. "Do you really think we'd stoop to theft?"

"I have no opinion in the matter," said the toneless voice. "It would be to your advantage to steal Vega's knowledge and buy something else that we know;

thus you would have two technologies in exchange for one. However, the possibility remains that some other of the parties rifled the box. Everyone knew about it."

"Or that the Sirians did it to blackmail us," said Welcome gauntly. "Or that you did it yourself, George."

HE took an uneasy turn about the room, the tiny robots scampering to avoid his feet.

"I'm terribly sorry this has happened," he said. "I'll get the dome police on the case immediately. Meanwhile, I wish you would just return to your quarters. I'll notify you as soon as anything happens."

"I will be waiting," said George, and rolled ponderously out of the office. Thevorakz snorted and stalked after him. Rappapa crawled out from under the desk.

"A pretty mess!" Welcome realized that he was shaking. "Just what I need to start my job off right!"

"I am with humble firmness assured that your excellency will on the instant penetrate the depths of all dastardliness," said Rappapa.

"Um, yes, thanks." Welcome looked sharply at the Arcturian. *At least, I suppose I mean thanks.* "Sorry you were bothered this way, Freeman Rappapa. If

you don't mind, I'll be rather busy now—"

"Of course. I shall not obtrude." Rappapa lifted his voice. "Compan-ee, ten-SHUN! Form ranks! Right face! Forward — MARCH! *Hup-two-three-four, hup-two-three-four, hup-two-three-four—*" He marched out of the office trailing his army behind him.

Christine leaned against the door and looked helplessly at Welcome.

"Now what?"

"Now we get to work. Get me Captain M'Gamba."

WHEN the police chief's dark face was on the screen, Welcome explained the situation.

M'Gamba frowned. "Bad business, huh?"

"This is not a Good Thing," quoted Welcome. "You can see the spot we're in. If that book isn't recovered fast, we're going to lose face everywhere in the whole Galaxy. Earth will be branded as a planet of thieves and nobody will care to come here to do his Horse Trading. Sirius could take the lead away from us on that, and you know what an arrogant, opinionated lot they are. Nice people to have as the leading race of our new interstellar culture!"

"Maybe they did this job themselves, just to discredit us?"

"I wouldn't put it past 'em. But get busy, will you? You know the line—be tactful, but just as firm as you dare. And, Captain M'Bamba, if we don't settle this affair quick, you and I are both going to be looking for new jobs."

"And good jobs aren't easy to find these days. All right, Freeman Welcome, we'll blast off on it right away. I'll call you as soon as I have a report."

Welcome gave Christine a haggard look. She ran a hand through her blue-black hair and regarded him sympathetically. "Tough luck, Auch."

"For me or for Earth?" he asked bitterly.

"You, mostly." Her eyes widened. "You don't think this could—lead to war, do you?"

"Oh, no. The logistics of interstellar warfare and conquest are ridiculous. But it could lead to bad relations with our Galactic neighbors." Welcome knocked the dottle from his pipe and began recharging it. "And you know, Chris, this new culture developing with the null-null drive is an abstract thing, an exchange of information and sympathy, ideas, philosophies — abstracts, not tangibles. Ill feeling now could poison it at the source. I don't know. I just don't know."

He stared moodily out at Earth.

M'GAMBA'S report came in a couple of hours later, and Welcome frowned as he fitted it into the pattern of knowledge he already had.

There were a dozen adjoining suites on the fourth sub-level of the dome, adjustable to the conditions of other planets, and the same level held three large club-rooms for the use of guests. Currently, the apartments housed the envoys of five stars: Sirius, Vega, Arcturus, Procyon, and Alpha Centauri. All these groups had been on Luna for periods ranging from several days to three weeks, and had mingled freely in mutual curiosity. Last night the dome's chief, Carlos Petersen, had thrown one of his periodic parties for the guests, and all had attended. The Sirians had come home late and gone directly to sleep, not noticing that their place was robbed until they woke up the next "morning."

Whoever did the burglary had been confoundingly clever. There was an electronic lock, supposedly burglar-proof, on the outer door of the suite, wired to sound an alarm if anyone tried to break it. It had been opened with no trouble at all. The thief had entered, cut into the strongbox with an energy torch, taken the book, and walked out again, locking the door behind him.

Welcome scowled. The tech-

nique of fooling an electronic lock was something beyond the science of Earth.

Of course, Thevorakz himself, or one of his underlings, might have raided the box and hidden the book.

"The torch could have been taken from any of the workshops on the fifth sub-level," said M'Gamba over the screen. "They're open all the time, you know, for the use of anyone who has to build a model or something. The thief need only have taken the torch, used it, and returned it when nobody was around. But what gadget did he have to unlock that door?"

"A key, maybe," suggested Welcome.

"But Thevorakz has the only key to it, except for Petersen's."

"I know. How about the suspects?"

"Well, the company was wandering in and out of the club-rooms all the while the party went on; and everybody was pretty looped, too, except that George creature. In short, nobody we've talked to can swear that any other being was there all evening."

"Hm-hm. Have you searched for the book?"

"We're still looking. We've requested permission to search all the apartments of our guests. So far, only the Arcturians have

waived diplomatic immunity and invited us to do so."

"Well, keep plugging, Captain, and let me know what turns up."

"Will do."

A FEW minutes later, Carlos Petersen was on the screen, demanding to know what the trouble was. Welcome sighed and broke the news as gently as possible.

"Oh, Lord!" said Petersen.

"And little blue devils," agreed the Australian.

"I'd have your seat in a sling this moment, Welcome, if it weren't that I have to go to Earth immediately," said Petersen. "I'll be gone a couple of days. When I come back, I'll expect to see this mess straightened out."

"We'll try." Welcome was feeling too harried by now to care for manners. But the fact that he wouldn't have Petersen breathing down his neck was a minor mercy. "M'Gamba's a good man."

"He'd better be. I like you, Welcome, and think you were the right choice for your job. But this can develop into something too big and nasty for ethics to count. If it shows signs of doing so, Earth is going to need a scapegoat and you may very well be it." Petersen grimaced. "If they don't pick me, instead—or both of us." He glanced at his wrist chrono. "Got to run now.

Earth rocket leaves in ten minutes."

"Have fun," said Welcome moodily.

He paced once around the office, and threw himself into his chair. For a minute he exercised the more picturesque parts of his vocabulary.

The intercom interrupted him: "The envoy Orazuni of Inyahunna, planet Procyon A III, to see you, Freeman Welcome."

The man blinked. "Oh, yes. He did have an appointment, didn't he? Send him in, please."

He stood up, composing himself as the Procyonite entered.

O RAZUNI looked rather like someone's idea of a medieval demon. His slim graceful body sloped forward, stalking on clawed feet and counterbalanced by the long thick tail. The six-fingered hands were also clawed, and the pointed ears were almost winglike in their size. But the head, though bald, was handsome by human standards, in a high-cheeked, sharp-chinned, flat-nosed way, and the golden eyes were large and luminous and beautiful. He wore a light tunic and a brilliant scarlet cloak, and carried a portfolio under one arm.

"Good day, Freeman Welcome," he said, bowing. He had taken better to the hypnopedic teaching of English than most

non-humans, his accent being a nearly perfect Bostonian. "I trust you are in good health and spirits?"

"More or less," said Welcome wryly. He liked the Procyonite, despite the sharp battle of wits which had been going on between them for days now. "And yourself?"

"Quite well, thank you." Orazuni sat down on his tail, bracing himself with his rigidly straight legs, and accepted the proffered cigar. "There seems to have been an unfortunate incident last night."

"Yes, rather. Have you any notion—?"

Orazuni shrugged delicately. "One prefers not to become involved in such matters. I would not throw baseless accusations about. My group has, however, decided to show good faith by permitting the searching of our quarters. I shall so notify the police."

"Thank you. The more cooperation we get, the sooner we'll be able to clear this up." Welcome grinned. "I wish you were as easy to deal with in the line of business, Freeman Orazuni."

"I regret the impression," smiled Orazuni, "but I have my own planet to think of." He opened the portfolio and took out a sheet covered with an elaborate diagram. "Here, sir, is the struc-

tural formula—on a genetic rather than a chemical basis—of the human X chromosome, as determined by our technicians since we arrived on Luna. We have found conclusively that the tendency to certain types of cancer in your race—mammary, for instance—is linked here and here." He indicated a point where several lines diverged. That was a cluster of formulas in the alphabet of Inyahuna. "By proper treatment, it should be possible to modify the linkage without otherwise altering heredity in the zygote. The long-range prospect is the total elimination of any possibility of cancer from the heredity of your race."

WELCOME nodded, unsurprised. What he wanted was the knowledge of theoretical and applied genetics which made such studies possible in the first place.

Biological engineering—designing any life-form whatsoever, and creating it by controlled mutation! Perhaps Man himself becoming superman—at the very least, losing the inherited weaknesses which dragged him down and shadowed his life and ultimately killed him. This could mean more than the scientific revolution that began with Galileo had yet offered.

Only it hardly seemed fair of the Inyahunans to demand every-

thing Earth knew in exchange. They were welcome to the null-null drive, the energy converter, and the magnetronic tube. When they also asked for instruction in such things as mathematical sociology, supercomputer theory and practice and industrial catalysis, it was going too far. Their culture didn't need all that information. They could only want it for purposes of selling to someone else — underselling Earth, maybe. Welcome and Orazuni had been bargaining for a whole week now.

"We'd have to send a good-sized technical mission to Procyon to teach you all this," said the Australian. "It would be hard to find enough top-rank men in all those fields who'd want to be gone so many years on an alien planet; we'd have to pay them fantastic salaries. And the equipment they'd need! Really, Freeman Orazuni, you must be reasonable. I think I could add a course in advanced metal crystallography to what I've already offered you. That would help you with a good many construction problems. But then, naturally, we'd want you to give us your chemical-probe technique in return."

"In addition to the genetic theory and the tables of constants?" protested Orazuni. "Do you wish to ruin us, Freeman

Welcome? What will our poor race be able to trade for further information?"

"Your own biological technology. You can't have worked out genetics as thoroughly as you have without a good background in biochemistry, histology, and I don't know what else." The human put the tips of his fingers together and peered over the bridge they formed. "After all, we do have some good biologists on Earth, too, you know. We could work all this out for ourselves in time. The very knowledge that such things are possible is a long step forward."

"As for that," shrugged Orazuni gracefully, "we could send students to Earth who could consult your books and journals—"

"It would be of limited value without the help of men who've had practical experience," said Welcome. "I'm afraid your people wouldn't even know what to look for."

HE left the rest of it unspoken, though it was plain to both of them: Now that the civilized planets had gotten on to the idea of Horse Trading, they weren't going to be particularly cooperative toward casual students from outside. It wasn't a question of censorship; an effective barrier was imposed by the fact that there was no material trade to

speak of between the stars. How could a visitor pay for his stay and education? He *had* to be financed by his hosts. And he could only earn such a scholarship as a reward for his planet's having offered a similar one to the other world.

They bargained in a gentlemanly fashion for a while longer, Orazuni dipping into his portfolio from time to time—he never released it, and there were rumors that he slept with it—for some tantalizing sample of information. Welcome in turn threw out remarks concerning the value of nuclear energy and high-strength alloys. The human found himself wishing that he knew more about Inyahuna's culture. They were a polite but reserved people—one might almost say secretive.

It went well today, though. Orazuni seemed much more amenable than he had been yesterday, and at the close of the discussion there was almost complete agreement.

"I think we can wind this up tomorrow," said Welcome. "I repeat my offer of throwing in a course in quantum theory of resonance bonds as applied to alloys. Think it over."

"I must discuss it with my group," replied Orazuni, "but I think they will consider the terms fair. Frankly, I would like to return soon with my wives. Our

children will be nearly grown by the time we get home. If you would make arrangements to have the *Messenger* depart in a week or so—"

"Well, all right." Welcome balanced the factors in his mind. He'd have to round up all the instructors and other experts he had on tap to go to Procyon, alert the ship's people, arrange clearance. But a week should be enough. The other Inyahunans would remain to take posts at one of Earth's universities. "Wouldn't you like to visit around in the Solar System for a few months first, though? It seems a shame for you to come all this way without seeing much more than Luna."

"No, thank you. My people are not given to tourism." Orazuni got up to go. "Oh, by the way, if you will pardon my returning to a painful subject—I am curious. What is so unusual about this robbery, apart from the circumstances?"

"Well, the fact that an electronic lock was opened. It's not supposed to be possible without a key." As Orazuni arched his hairless brows, Welcome explained: "The lock has no keyhole. It's held by a magnetronic field clamping two plates together with a force of several thousand tons, the field being generated by the circulation of an electronic

current in several Cheval tubes. The whole thing is also wired in to an alarm circuit which goes off at any attempt to tamper. The key is actually a self-powered tube creating a heterodyning field. Since a literal infinity of wave-combinations is possible, there should be no chance of anyone's using a variable key to fumble the lock open."

"I see. I thought it was something on that order." Orazuni nodded and stroked his chin. "Do you know, if the crime was not committed by the Sirians themselves—or, if you will pardon me, by a human—then it seems logical that the guilty party should have a very advanced knowledge of electronics."

"I'd say so."

"Cybernetics?" murmured Orazuni. He bowed. "Well, I will not intrude further on your time. Good day, Freeman Welcome."

He left.

When he was gone, the human stood thinking for a long while. Small complicated circuits—Arcturus? Rappapa seemed like a pleasant little chap, but you never knew.

He sighed and looked out the window. The slow Lunar dawn was breaking incandescently over the jagged airless horizon and blazing into his eyes.

"Nice day," he muttered bitterly.

M'GAMBA called up a few minutes later. "We found the book," he said.

"Eh?" Welcome's long body jerked forward.

"Lying in a corner of Shop Number Seven. Anybody could have left it there. We gave it back to the Sirians, but they weren't very polite about it."

Welcome shrugged. "I don't blame them. Obviously the thief took photomicrographs of the book and got rid of the thing itself away after he was done with it. Now all we have to find is a packet consisting of a few one-inch-square films. Hell, he could have swallowed 'em."

"And grabbed himself a whole technology without paying Vega for it. I guess George is hopping mad too, though you can't tell. He gives me the crawlies."

"The devil with that. We've got to find the burglar to clear ourselves. Been through the apartments?"

"All but the Sirians and George. The Sirians wouldn't hear of it, and it'd be impossible to make a decent search in a place conditioned to New Jupiter. Nothing. Not a thing."

Welcome bit his lip, then blurted out his suspicions of Arcturus.

The police captain nodded. "Sounds pretty reasonable."

"I took Rappapa for a dinkum clobber, but—well, we can't trust

anybody, can we? Rig some traps. Try to fluoro him and his bunch without their knowing it. Go through their suite again with an electronic probe. Try anything."

"All jets," said M'Gamba glumly, and clicked off.

The intercom buzzed. "The envoy Helmung dur Brogu-Almerik, planet Alpha Centauri A III, to see you, Freeman Welcome," said Christine in a mechanical voice.

"On top of everything else," groaned the Australian. "All right, send him in."

THE door flew open. A nine-foot giant stamped in, thumping the butt of his spear on the floor, his chain mail jangling and his sword clanking. He was fairly humanoid, except for a blue skin, a tail, and antennae above his small slant eyes, but the battered face was tattooed in a ferocious pattern of red and yellow. If it hadn't been for several exploration parties from Earth, which had maintained a more or less permanent liaison with the clan chief of Brogu, this visit—or visitation—would never have happened. But the barbarians had heard news of the Horse Traders and insisted on getting into the game, and in the interests of peace the last expedition had brought this delegate back. And

sloughed him off on me! thought Welcome with resentment.

"How do you do, Freeman Helmung?" The Earthman said very softly. The Centaurian's head looked immensely high above him.

"Quiet, I will speak!" The walls rattled.

"Just as you wish." Welcome extended the customary box of cigars. Health hadn't reported this race as allergic to tobacco, but he hoped maliciously that Helmung would be.

The giant grabbed a handful, popped them into his mouth, and chewed noisily. "Not bad," he said, sprawling into a chair. He swallowed, spat on the floor, and cocked his spurred feet up on the desk. "I am Helmung dur Brogu-Almerik. Look on me and be afraid." It seemed a ritual greeting, for he added in a more friendly tone: "You may call me Skull-smasher."

"Ah, yes, to be sure." Welcome sat down on the other side of the desk. "I trust you have been enjoying your stay?"

"Not enough fights. No females big enough. That Orazuni, he is good sort and gives me much drink, otherwise you can *hialamar* them all." Welcome did not inquire what it was to *hialamar*, though he could make a shrewd guess. "I am great sorcerer. I have much *vingutyr*."

"You have much everything," agreed Welcome hastily.

"*Vingutyr* is—is what I have much of. That is why I am great sorcerer." The gravelly bass paused for a thunderous belch. "I shall show you how to wish your enemies dead. You shall show me how make ships-that-fly. Then we shall sack many worlds."

"Well, really, I say now—" Welcome had a sudden sense of futility. "There just isn't much witchcraft on Earth these days."

"I knew you was backward peoples!" cried Helmung triumphantly. "Look, dance of death, begins this way." He jumped up, waving his spear, and began to prance around, chanting.

"Isn't there something about making a doll and sticking pins in it?" asked Welcome weakly.

"Old-fashioned. Brogu is modern peoples. My father, top witch in Almerik, study from Earthmen. Learn about laws of science. He go on to figure laws of witchcraft." Helmung ticked off the points on his fingers, and Welcome realized that he must, after all, be his race's equivalent of an intellectual. "Law of likes-make-likes. Law of luck. Law of—"

"Now hold on, please do."

WELCOME riffled through his papers till he found the memo on Alpha Centauri sub-

mitted by the preliminary investigators, which, in the madhouse today, he hadn't had time to read. Confound it, the barbarian must have *something* worth the time of a division chief! He skimmed rapidly down the sheet and stopped at a paragraph referring to a limited degree of telekinesis as a congenital talent. The phenomenon was almost nonexistent among humans, and the parapsychology boys wanted Helmung humored so they could study him in detail.

Welcome thought of the Centaurian tossing boulders through the air by pure will-power, and shuddered.

"I understand," he began cautiously, "that you can move things merely by wishing them to move."

"Well, little things," said Helmung deprecatingly. "Not very big. Powerful wish-mover back home was showed game called dice by Earthmen. He won much treasure from them. But he had be much powerful to move dice."

"I see."

Welcome suppressed an impulse to mop his brow. He wasn't very well briefed on modern parapsych theory, but he remembered vaguely that telekinesis was attributed to a linkage between the neural field and the local sub-electronic fluxes. If that was so, you wouldn't expect the

nervous system to have enough energy output to lift anything massive. Still, it would be interesting to watch.

"Do you mind if I try you?" he asked. "I've never seen this before."

"Is little thing," said Helmung scornfully. "Why not ask me wish-kill somebody for you?"

"Some other time," said Welcome. He went over to a cabinet in which he kept testing equipment and took out an oscilloscope. When he had a steady sine wave on it, he gestured with one hand. "Can you change that wiggly shape there?" he asked.

"Easy," grunted Helmung. "Orazuni told me about little things, too small to see."

"Yes. As a biologist, he'd naturally be interested in TK, too. Never mind, go ahead, if you please."

HELMUNG scowled in concentration. The electron trace jerked wildly, slithered across the screen, and began shaping itself into obscene drawings. Welcome hastily shut off the scope.

"That's fine," he said. "That's just beautiful."

Helmung rubbed his hands with a businesslike air. "Now how you build ships-that-fly?"

"I don't think you would be really interested in that," said Welcome as tactfully as possible.

Helmung's tail lashed against his ankles. He leaned across the desk, grabbed the human by the scruff of the neck, lifted him up, and shook him.

"So Brogu witchcraft not good enough for you, hah?"

"Yowp!" Welcome was near choking when Helmung set him down.

"I am patient man," rumbled the barbarian, "but you show me how build ships, or—"

"Now look, Skull-smasher," said Welcome shakily. "Really, I'd like to, you know, but I'm not the boss here. I can't tell you myself. You see—uh—well, on Earth our witches still believe in the dolls-and-pins theory. Also, to build spaceships you'd need tools you don't have, even if you knew how. Why don't you think it over for a while? We could show you lots of other things. For instance, you know what an alloy is? Well, we can tell you how to make better alloys than you now have. Unbreakable swords and so on. Why not start with that and work up?"

"Might be," grumbled Helmung, taking a thoughtful bite off another cigar.

"Oh, and ways to brew fire-water, perhaps," added Welcome.

He winked, and Helmung guffawed, and presently the interview ended in a spirit of good fellowship. When the broad mail-

ed back had gone out the door, Welcome made a dash for a three-starred bottle.

He thumbed the intercom switch.

"Come on in Chris," he said. "I think we both need a drink."

TWO hours later, Welcome was pretty sure he had tracked down the thief.

The time had been devoted to hard thinking and to study of the files on the four possible planets, sent up from the Division of Biopoliticology. Four planets, because you could eliminate Helmung immediately, and Welcome was sure enough of his own staff to feel certain that no human, even in a fit of greed or planetarism, had snaffled the book. Furthermore, you had to bear in mind that none of the delegates could have known in advance that a theft would be possible. They could not have made elaborate preparations beforehand for the job, but must have used whatever means were available to them, more or less on impulse. That argued for the burglar's having the technology to pick an electronic lock even if he had never seen one before.

That also ruled out Procyon at once. Enough was known of their science to make it quite certain that they lagged behind Earth in such matters as control circuits.

Vega—you couldn't be sure just what George did or did not have at his disposal, but the fact that he had come here in the first place to get some of mankind's electronic and magnetronic knowledge pretty well proved that he couldn't have done the crime. Why should he steal his own book, anyway? New Jupiter wasn't much interested in interstellar intercourse or in setting up its own Horse Traders.

It was also a safe bet that Sirius did not know how to open the lock without a key. To be sure, Thevorakz did have such an instrument, and he might well have faked the crime to discredit Earth in the eyes of other races. But the psychology reports, while not conclusive, did make that line of thought seem improbable. The Dominators weren't that subtle.

By elimination—Arcturus.

Welcome sighed and called M'Gamba's office. "Anything new?"

"We're working along," said the policeman. "We've had every human who was on the fourth sub-level last night, at the party or on duty elsewhere, under deep hypnosis—total recall. By piecing together all their accounts, we've shown that every member of the Procyonite and the Arcturian delegations was seen by somebody all the time until the party broke up and the Sirians went home.

In other words, there's not a chance that any of them could have done it. There are blank spots as far as the rest are concerned, though."

"Arcturus, eh?" Welcome frowned. "Do you have anything else on them?"

"Well, we have been snapping fluoros at the Arcturian ducks on the sly, as you suggested. You know those little pouches they wear around their necks, to carry things in? One of their party—Srnapopoi, the name is—is carrying around a packet of micro-films. But it can't be the film, can it?"

"Can't it?" Welcome showed his teeth in a humorless grin. "Look, Captain, a circuit technology as highly developed as theirs should be able to crack the electronic lock."

"I tell you, they were under observation all evening!"

"But were their robots?"

M'Gamba paused. "Never thought of that."

"Well, it seems plausible, doesn't it? Trouble is, this is a delicate matter. We can't just arrest them on suspicion; we'll need mighty good proof."

M'GAMBA rubbed his chin. "I think a look at this Arcturian's neck pouch could be arranged. He's down in the shop now, working up a demonstra-

tion model. I'll have one of my skilled operators go down and talk to him and—ah—accidentally cut the thongs of the pouch with a beam-slicer. Cut the pouch itself open, too. The contents will spill out and—"

"It's your problem. Just make sure you have a cover-up in case he turns out not to be carrying the stuff, after all. Call me as soon as you know, will you?" Welcome clicked off and sat for a moody while, considering his own next move. Finally he sighed and called Christine. "Get hold of Rappapa and have him come here, please. Diplomatically, of course."

"Auch, you don't think—"

"I'm afraid I do."

Welcome stuffed his pipe and looked out at the savage dawn-glare. Damn and blast, how did you accuse an accredited envoy of theft, especially when you liked him?

Rappapa came bustling in accompanied by no more than a midget helicopter.

"Twice in one arbitrary diurnal period?" he quacked. "Believe me, your excellency, I am flattered by such hyper-attention on the part of your doubtless busy-with-vast-problems-of-interstellar-negotiations self."

"I need your help," said the human awkwardly. "Would you like a cigar?"

"Gratitude erupts from me," said Rappapa. "If there is even of-the-most-micrometric way I can assist in—"

"It's this business of the theft." Welcome drew heavily on his pipe. "It puts my whole planet in a deucedly bad light. We have to catch the burglar to save our own reputation. At the same time, he is somebody's diplomat, which could lead to an unholy row if we arrested him."

"Anyone who would ponder the violation of your excellency's so lavish hospitality should be de-dignified," said Rappapa indignantly.

"IT'S not that simple, I'm afraid," Welcome explained. "His planet would react with a great show of injury, one harsh word would lead to another, the seeds of mutual suspicion would be sown. Don't you think, Freeman Rappapa, it would be best for the thief's own planet, too, if he merely surrendered his loot? Then no one need ever know what has happened. The whole thing could be discreetly hushed up and forgotten."

"First the much-to-be-pondered question of locating the pilferish ambassador arises," said Rappapa. "Does your excellency the assistance of my abject self in such detection work desire?"

So he's going to stall, after all.

"If the thief confessed," said Welcome desperately, "I would understand that he committed the act only from the highest motives of planetarism. I would not look down on him for it, or discriminate against him in any way."

Rappapa waved his cigar reverently. "Behold the magnanimity of the magnanimous!"

"If he doesn't confess, though, if we have to find him for ourselves, we may have to be rather stern about it afterward."

"Of course. Your excellency burrows to the very foundation of justice."

The visor buzzed. *Here goes*, thought Welcome. He clicked it on, and M'Gamba's features looked bleakly out at him.

"Well?"

"It worked," said the captain. "My agent got his hands on the films, shoved them under the nearest reader. They're the ones, sure enough."

"And how about the—one who carried them?"

"He insists he didn't know he had them. Says someone must have planted them on him. That wouldn't be hard to do, of course, so I haven't put him under formal arrest yet. What do you suggest?"

"I'll call you back." Welcome clicked off and turned to Rappapa. "Well, we've located our

thief. Finally," he said.

"So I g-gathered." The Arc-turian jittered about on the floor, stuttering in his excitement. "Who is it? Who is the low, vile, not-to-be-mentioned-without-expectoration creature?"

"His name," said Welcome heavily, "is Srnapopoi."

"Srna—"

"Yes."

"B-but — *donnabi whichu krx killuwi*—it is not of the possible! Believe me, excellent excellency, w-we are p-pure as distilled water!" Rappapa began trembling.

"Your people should be able to figure out an electronic lock and have your robots pick it," said Welcome tonelessly. "And Srnapopoi was carrying the films."

"Copies? Copies m-made by the th-thief to divert suspicion!"

WELCOME came around from behind the desk. "Don't take it so hard," he said kindly. "If you like, we'll claim that Srnapopoi did it on his own initiative, without your knowledge. We'll hush it all up."

"But he couldn't have!" wailed Rappapa. "The robots can only my orders obey!"

Welcome leaned back against the desk, scowling. His pipe had gone out and he made an elaborate ritual of relighting it to hide

his uneasiness. He had given Rappapa an out and the duck hadn't taken it. Nor would you expect anyone cool enough to pull that job to blow his jets this way when discovered—or, for that matter, to hide his loot so clumsily, though of course there was no accounting for non-human psychology.

Rappapa began to cry. "We are besmirched with accusations and have lost confidence. You think I am a not-fit-to-wipe-the-feet-on-egg-eater. What will my nestmates say?"

"Now, after all—"

"They will say, '*Twutiuk poi-poi tu spung Rappapa.*'"

Welcome scratched his head helplessly. "All right, all right, you didn't do it. You've been the victim of a fraud. But then who is guilty?"

Rappapa rubbed the tears from his bulging eyes. "It is necessary to protect the Kwillitchian self by the true monster finding," he said with some return of his old perkiness. "Will you give me out of your polychromatic mercy a chance?"

"Certainly. Because if you're not guilty, then we've still got to find the one who is." Welcome sat down on a corner of the desk. Inwardly, he groaned at the thought of starting over again, just when he had thought the business was settled—but, damn

it, you couldn't simply call an official delegate a liar, however much you might want to. "Let us assume that you did not do it. That leaves two possibilities, Sirius and Vega."

"Would you from the scintillant heights of intellect descend to explain the omission of Procyon and Alpha Centauri?"

"Well, the Centaurian is obvious. He's too stupid even to think of such a job. And Orazuni and his people were never out of sight of a human last night." Fairness forced Welcome to admit: "Neither were you Arcturians, for that matter. But you had the robots."

"Could not Orazuni have had hidden-away robots?"

"Not with his technical background. They're biologists, biochemists, not electronics, except on an elementary level. Unless Orazuni stole the key, which he did not, he just had no means of opening that lock."

"That leaves only some elaborate and improbable-on-the-face-of-it plot by Sirius or Vega."

"And I don't think it could have been Vega. They're backward in electronics. With the atmospheric pressure of New Jupiter, they never even developed a vacuum tube. And as for Sirius—"

"No, wait! Robot delegate sent to do foul deeds while the weaver

of intricate plots sits at his ease in public view," Rappapa's eyes bulged until they seemed in danger of falling out.

Welcome looked at him, and he looked at Welcome.

"Killuweetchungu!" squawked Rappapa. "Let us go!"

"Hold on. We have to think this out."

"No time to think! Come!"

RAPPAPA bounded from the office. Welcome cursed and charged after him. If that impulsive featherhead accused the wrong being—

Christine saw four feet of squawking Arcturian, followed by six feet of cursing human, followed by seven inches of valiantly laboring helicopter, shoot through her office. She got up and raced after them. The receptionist saw the parade go by and excitedly joined it. A passing janitor saw them streaking through the hall and took out after the receptionist.

Rappapa went down the ramp to the fourth sub-level, screeching and whistling. Thevorakz came out of his quarters to see what the fuss was about, just in time for Rappapa to unbalance him by darting under his legs, Welcome to bowl him over, and Christine, the receptionist, the janitor, and a few odd specimens picked up along the way to

trample across him. As he rose, howling his fury, the helicopter collided with his head. He snarled and galloped after the rest.

"Where is the Centaurian?" clacked Rappapa at George, who was rolling down the corridor. "Where is he lurking?"

"In the clubroom," said the Vegan, pointing.

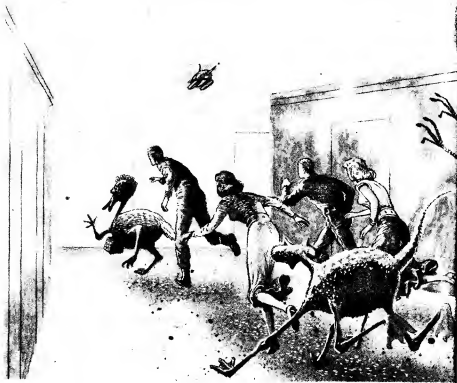
Rappapa vaulted the metal shell. Welcome and Christine leapfrogged over him. The others drew up, until Thevorakz took a flying broad jump above the

whole group. George stared after them, shrugged, and rolled imperturbably on his way.

The clubroom was almost deserted: a stray Arcturian was reading a murder mystery, Hel-mung was draped over the bar clutching a bottle, and Orazuni sat chatting with the warrior.

"There they are!" yammered Rappapa. "There abide the overly diabolical thieves!"

"Shut up, you bloody fool—" Welcome tripped on a chair and went flat on the floor. When he



crawled up, Rappapa was grabbing Helmung by the baldric and chattering a stream of questions.

"What is, little one?" rumbled the barbarian. "And why?"

"We want to know how much Orazuni offered you to turn thief!"

"I?" Orazuni smiled tolerantly. "Our colleague seems a trifle excited, Freeman Welcome."

THEVORAKZ clumped up to the bar, brushing assorted humans aside.

"I demand an apology!" he roared. "I did not come nine light-yeareth to be walked on!"

"Let me go," growled Helmung uneasily. He batted Rappapa away.

"Help!" squealed the Arcturian. "Com-pan-ee—HELP!"

"Really, now," said Orazuni reproachfully, "I must say this is a most undignified scene."

"Will you apologize to me?" belled Thevorakz.

"I go my place," said Helmung. "Do not follow." He shoved his



way through the crowd.

"Stop, thief!" yelled Rappapa. His robots marched in the door. "The Centaurian!" he added.

"Now, see here—" began Orazuni.

"Stop him, too!" cried Rappapa. "He the films has!"

"I shall also demand an apology," said the Procyonite with stiff dignity.

Thevorakz reached out and gathered in a handful of his cloak. "Maybe you better wait a little," he said.

Helmung had just noticed the robots deploying before him.

"I see little men!" he gasped. He waved his arms and started an incantation.

A detachment of robots swarmed up some curtains, took them down, and began to hobble the Centaurian with them. Helmung looked suddenly crushed.

"My witchcraft not works here on Luna," he mumbled. "I want go home."

Welcome decided it was time for him to do something.

"Helmung," he asked, "did you open the door to the Sirian quarters for Orazuni?"

"I promise him I not tell anyone that," said Helmung in a self-righteous voice. "You torture me, do anything, I not confess I was one who open door."

Suddenly Orazuni broke into a laugh.

"Never mind," he said. "Here is the other copy of the book." He fished in his portfolio and tossed a packet over to Welcome. "And now, freemen, if you will excuse me—"

Thevorakz's bellow cut through a sudden quiet. "When do I get my apology?"

"IT should have been obvious, I suppose," said Welcome to Christine and M'Gamba. "That attempt to frame the Arcturians by making an extra copy of the book and planting it on one of them couldn't have thrown us off very long. But Orazuni only needed to have us baying along his false trail for a few days; then he'd be safely on his way home, bearing the films. We did know, though, that he had been cultivating Helmung's friendship ever since he learned that the Centaurians are telekinetic. His interest was scientific to start with, but it soon occurred to him that if Helmung could control electron streams easily enough to make pictures on an oscilloscope, he could surely open an electronic lock. And the Vegan data is valuable."

"Did he hope to get more out of it than just the tables themselves?" asked M'Gamba.

"Yes. I was talking to him just now, and he was quite frank and cheerful. Procyon has entertained

notions of taking the job of Horse Trading—ultimately the scientific leadership in all respects—away from Earth. This theft would not only have discredited us, but given them a nice chunk of knowledge to trade with, besides what they learned from us through legitimate channels. Orazuni got Helmung to steal the book from him by the bribe of a love potion—A hormone mixture adapted to Centaurian biochemistry. Helmung's received that payment, by the way, and is eager to get home and try it out; so that's one more nuisance off our necks."

"And what are we going to do about Orazuni?" asked Christine worriedly.

Welcome shrugged. "Keep an eye on him. What else can we do? We need the knowledge and the good will of his planet. We'll go

on just as if nothing had happened. Horse Traders can't be very prim, you know."

HE looked out the office window. The Sun was visible now, its blinding glare filtered to a soft radiance, and the sterile land of crags and craters had an eerie beauty over it.

"Hard to believe this affair only took one working day," he said. "And what a day! Can we have some nice peaceful routine for a while, Chris?"

"Not for long," she told him. "The Quest is due in from Tau Ceti soon. The previous expedition there reported the natives were quite anxious to learn from us and readying a delegation. I think their proudest achievement to date is an ingenious method of chipping flint."

—POUL ANDERSON

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